FIGURE 1

FIGURE 2

16a   16b   16c   16d

22   24   36

FIGURE 3A

14

40   38   24   38

16a   16b   16c   16d

22   24   36

FIGURE 3B

14

30a

38

38

40

38

36

22

14

FIGURE 3C

42 42 42 42 42 42 42 42

38

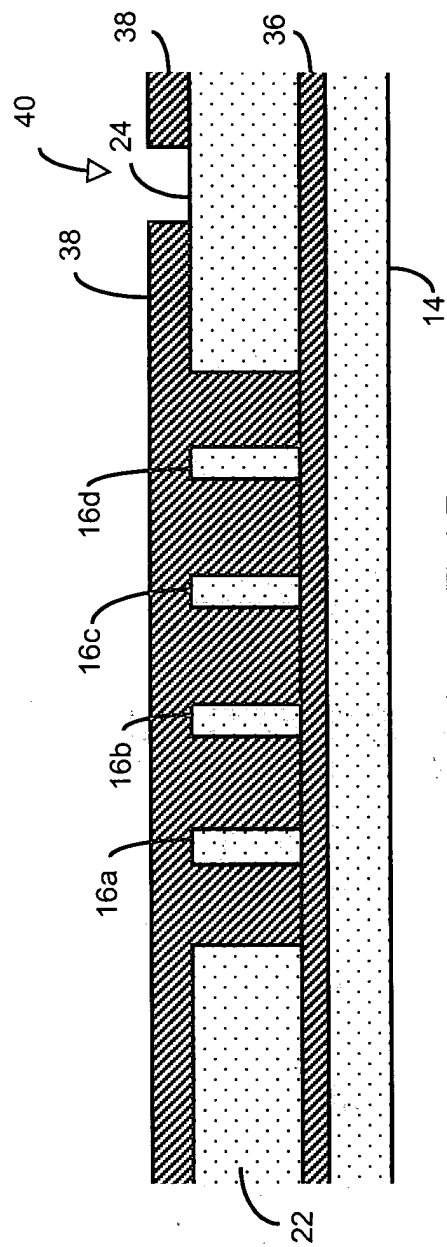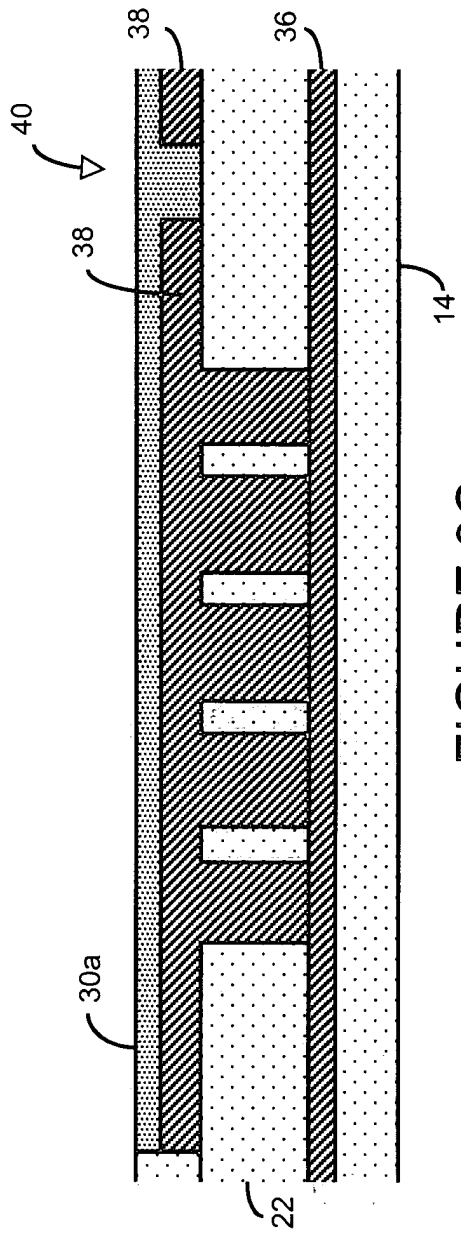30a 30a 30a 30a 30a 30a 30a

24

12

36

22

36

14

FIGURE 3D

FIGURE 3E

FIGURE 3F

12

46b

44

24

36

46a

30a

30b

44

16d

16c

16b

28

30

16a

26

22

36

FIGURE 3G

14

12

44

24

36

52

48b

48a

44

16d

16c

16b

28

30

50

16a

26

22

36

FIGURE 3H

14

12

54

50

44

24

36

16a 16b 16c 16d

28

44

26

22

36

14

FIGURE 3I
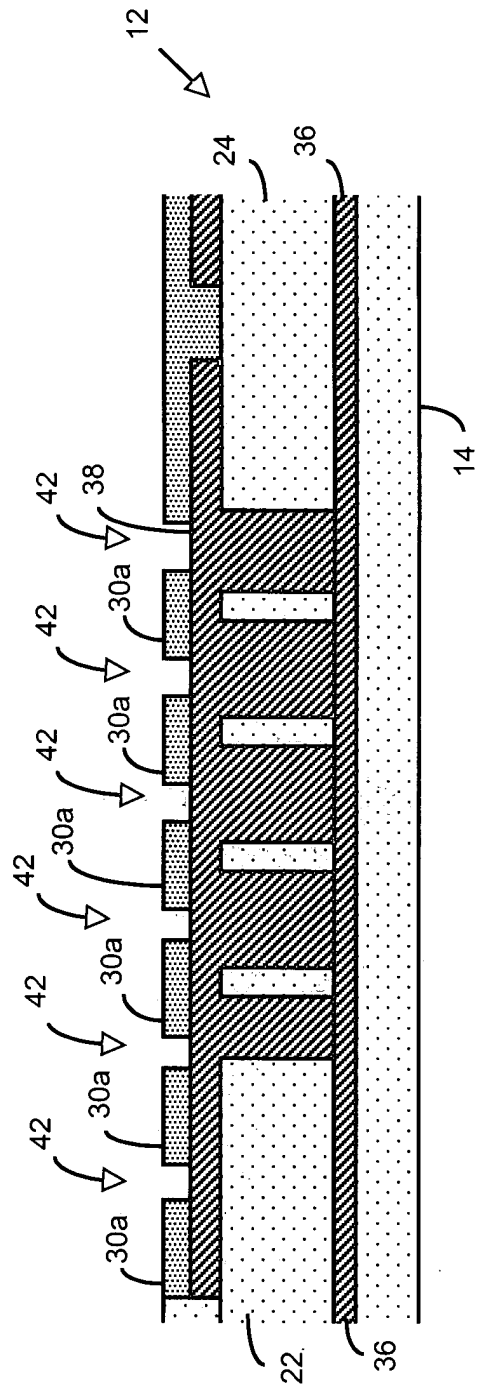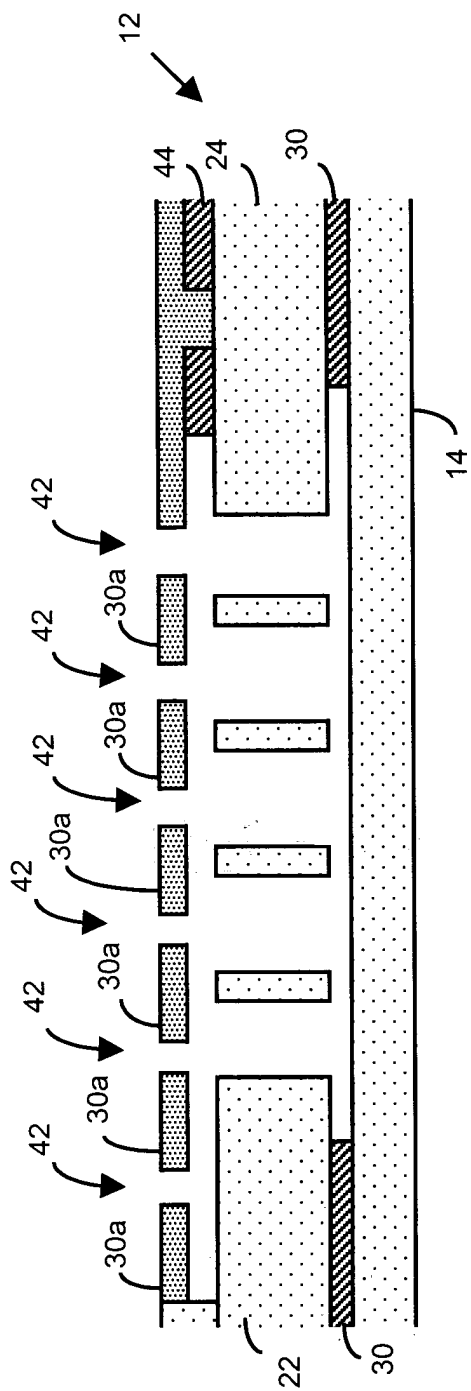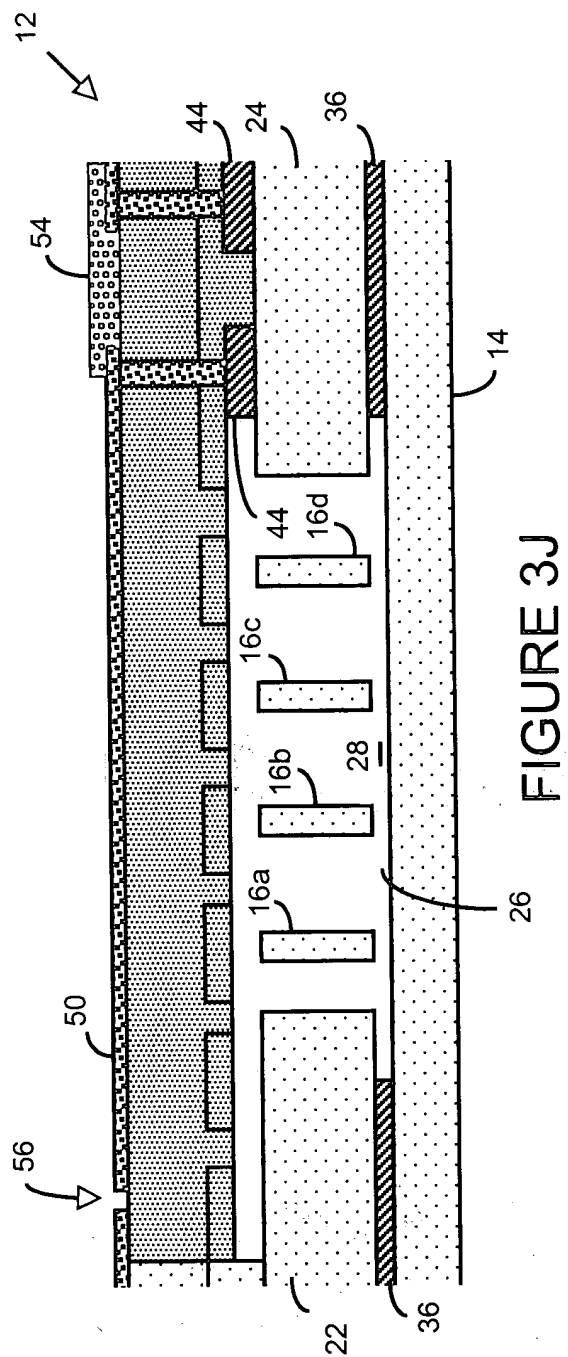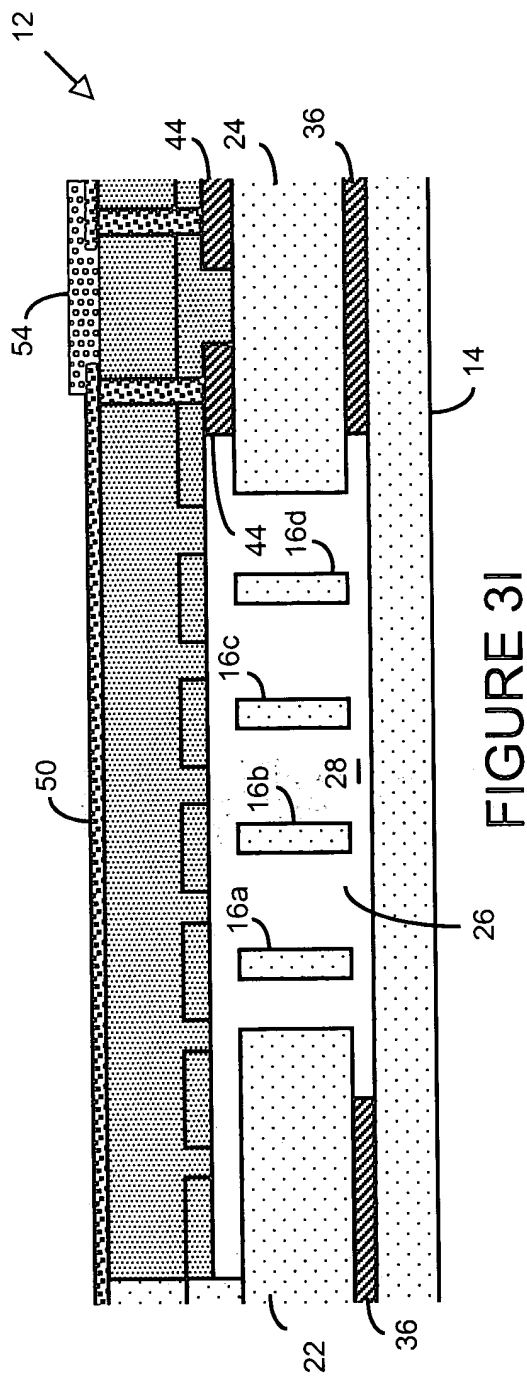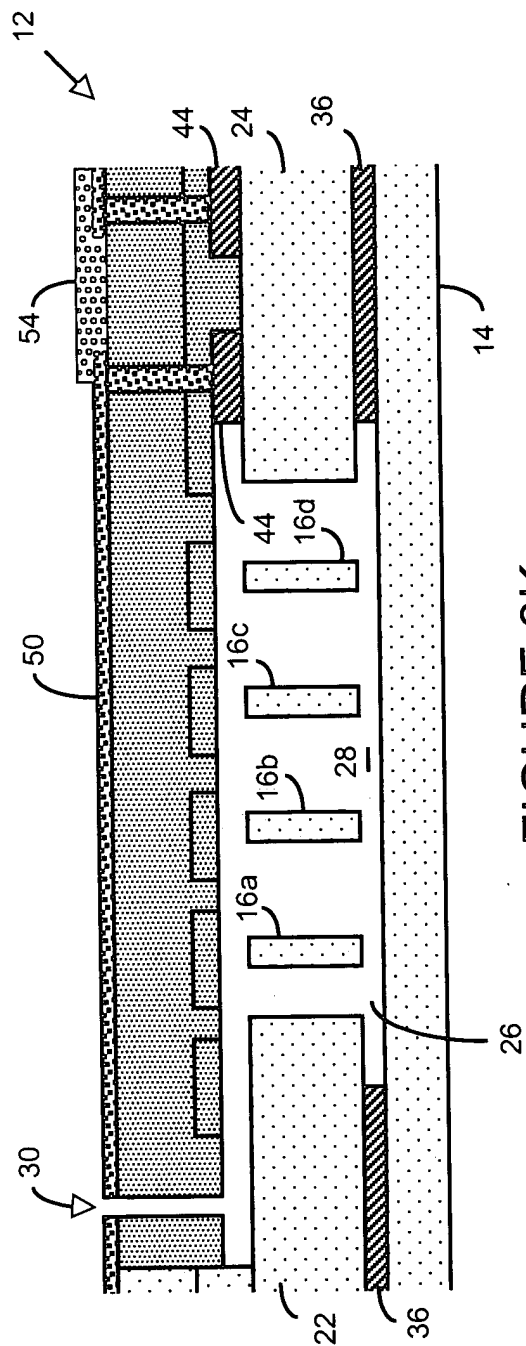
12

54

50

44

24

36

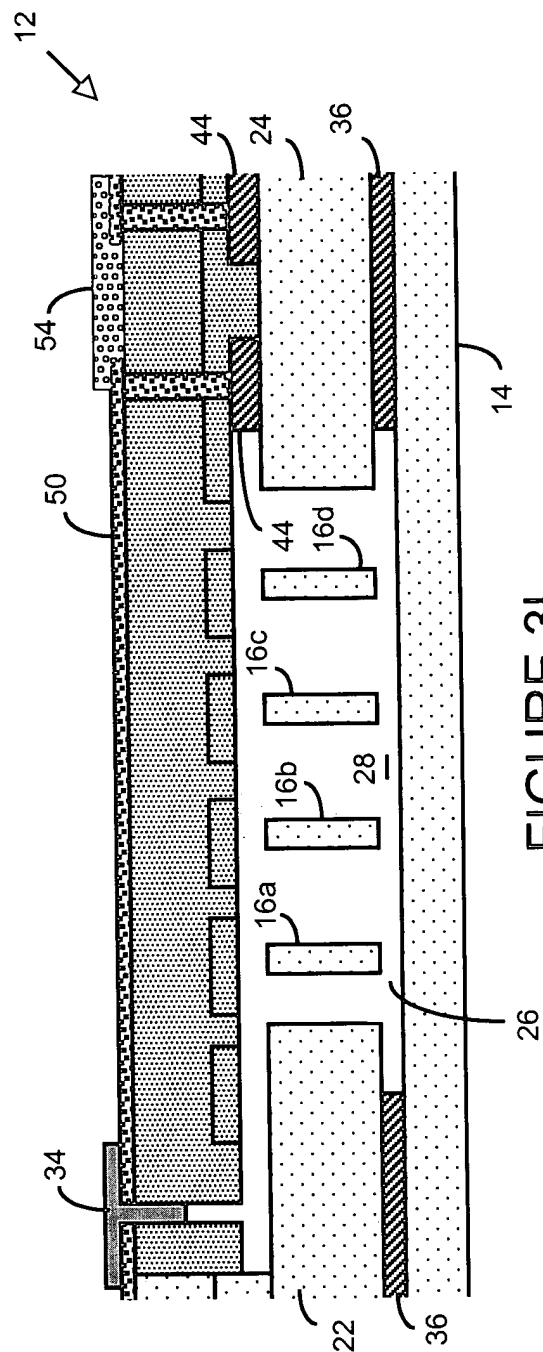56

16a 16b 16c 16d

28

44

26

22

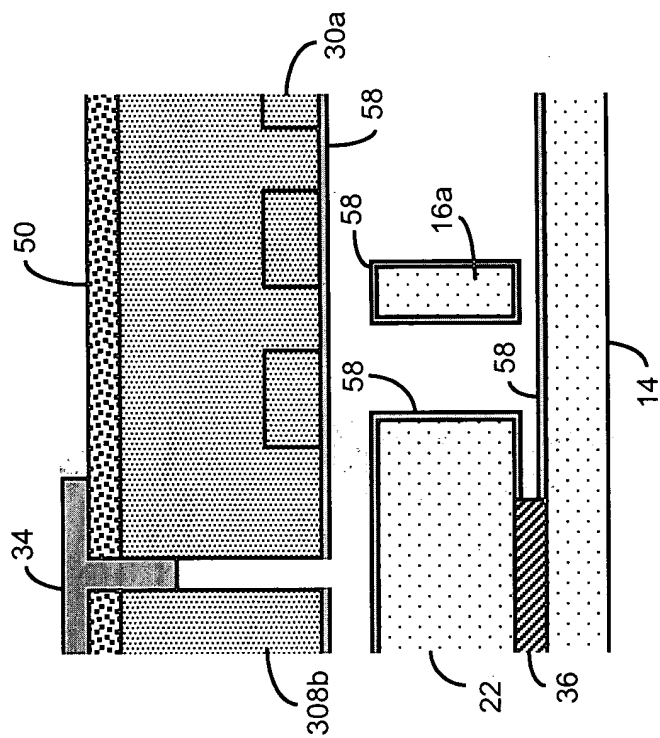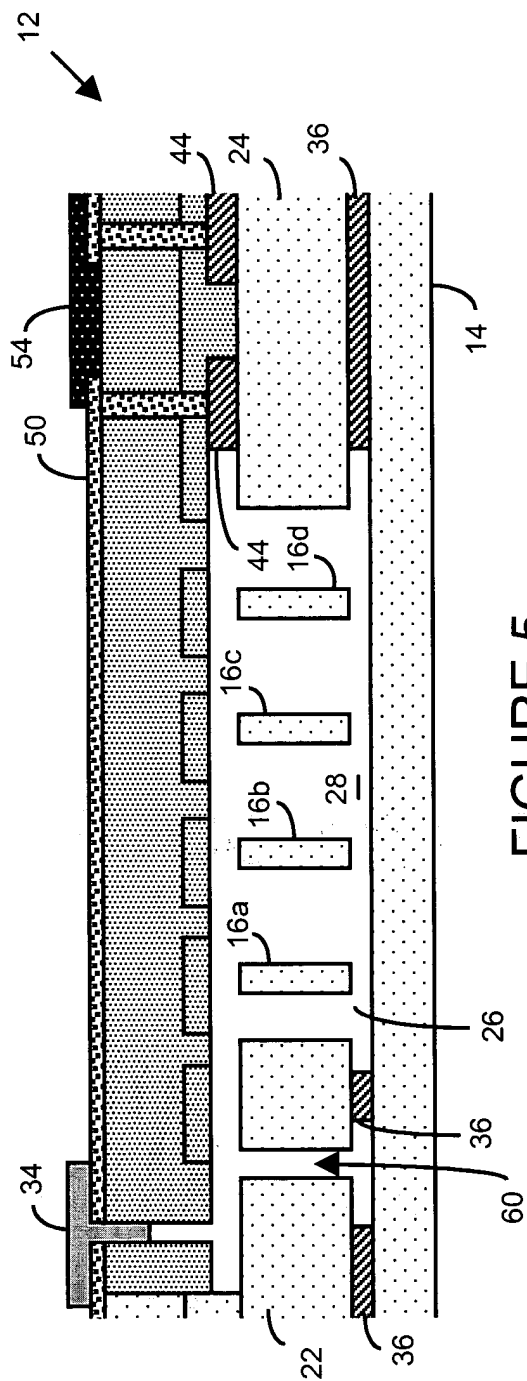36

14
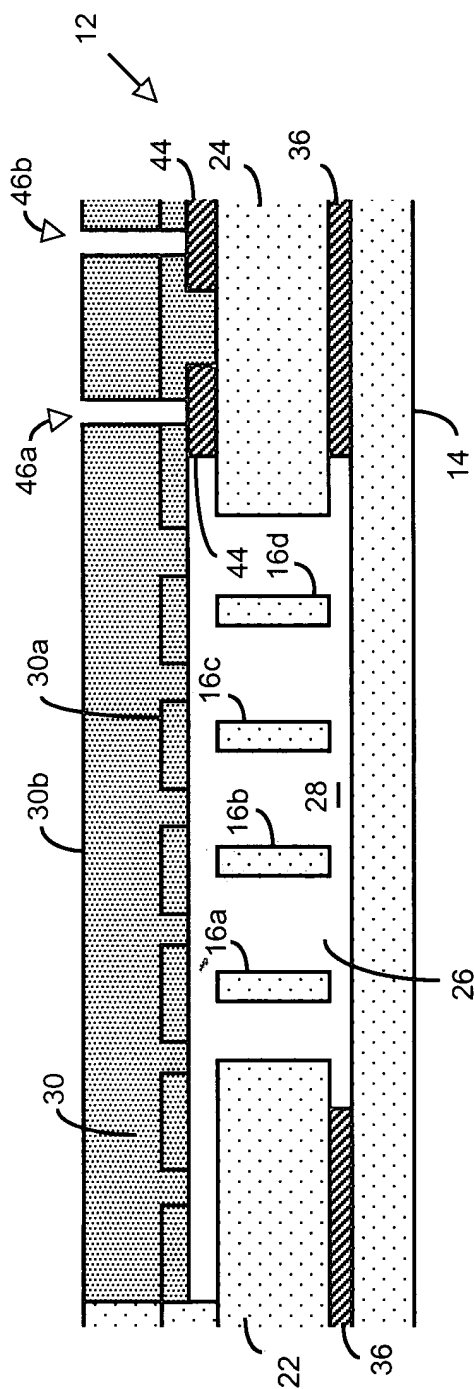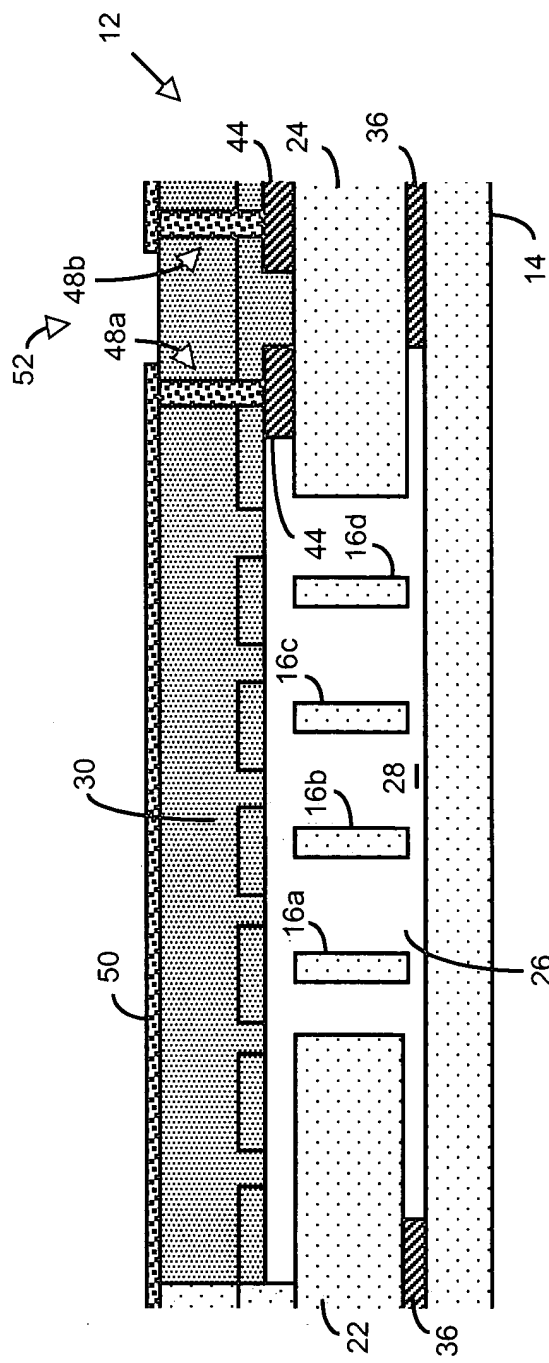
FIGURE 3J

FIGURE 3K

FIGURE 3L

FIGURE 4

FIGURE 5

FIGURE 6A
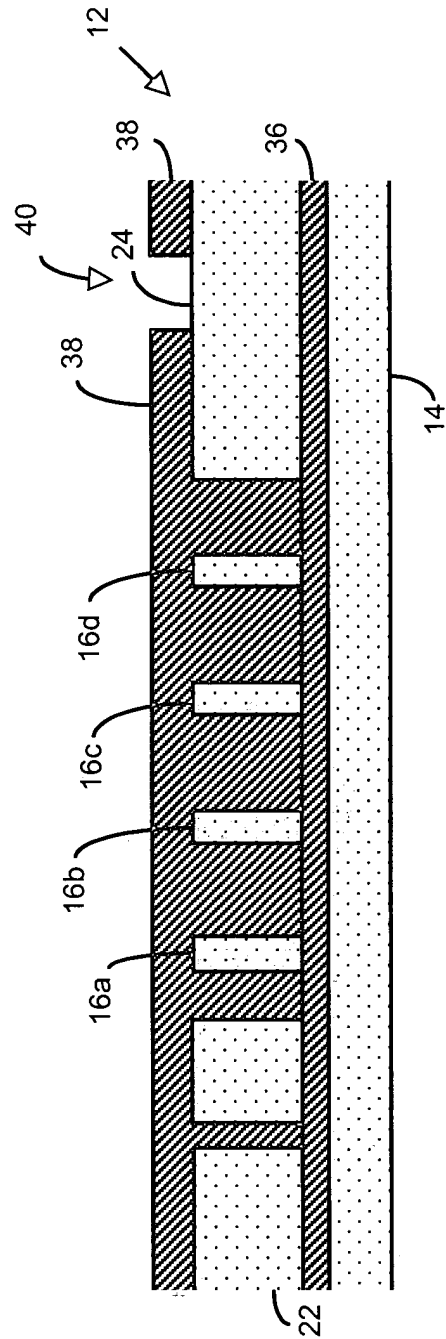
FIGURE 6B
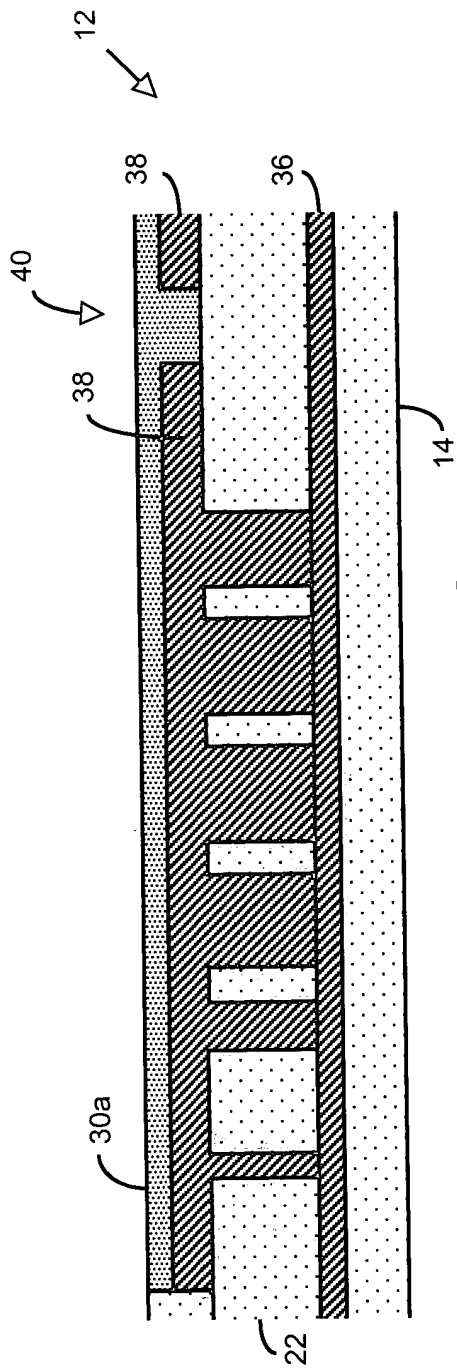
FIGURE 6C

FIGURE 6D

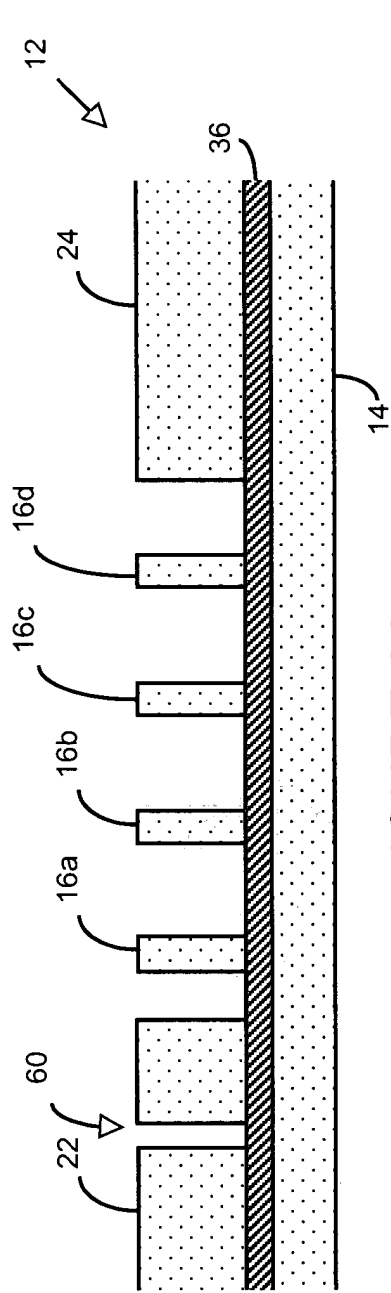FIGURE 6E

FIGURE 6F

FIGURE 6G

FIGURE 6H

12

54

50

44

24

16a   16b   16c

36   16d

28   44

22   26

36

36

60

FIGURE 6I

14

12

56

54

50

44

24

16a   16b   16c

28   44

22   16d

26

36

36

36

60

FIGURE 6J

14

FIGURE 6K

FIGURE 6L

FIGURE 7A

12

54

50

34

62

62

44

24

36

16a

16b

16c

16d

44

28

60

26

14

36

FIGURE 7B

12

54

50

34

62

22

36

44

24

36

16a

16b

16c

16d

44

28

62

60

26

14
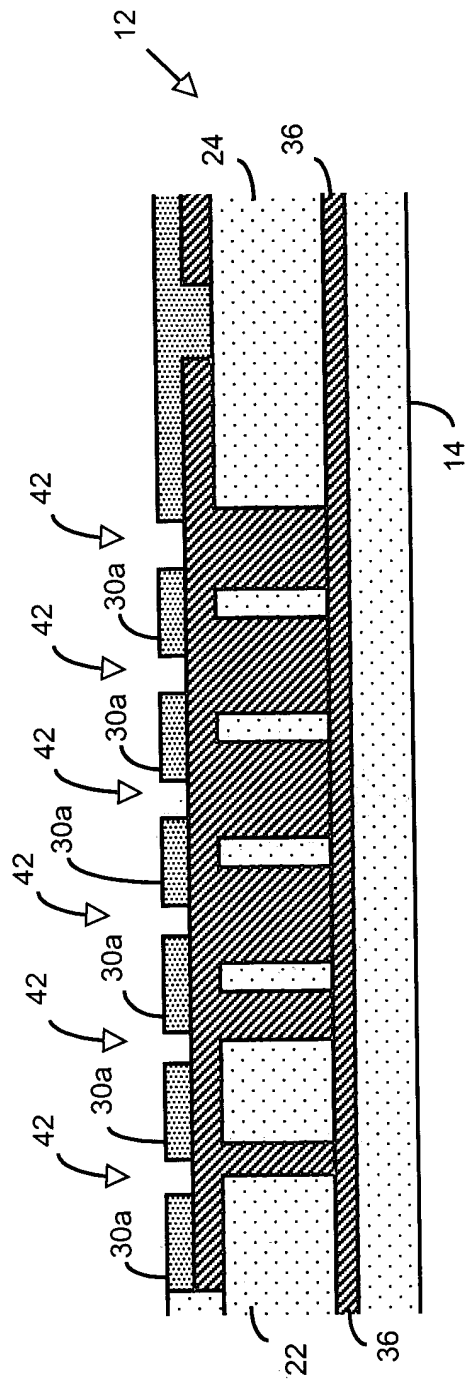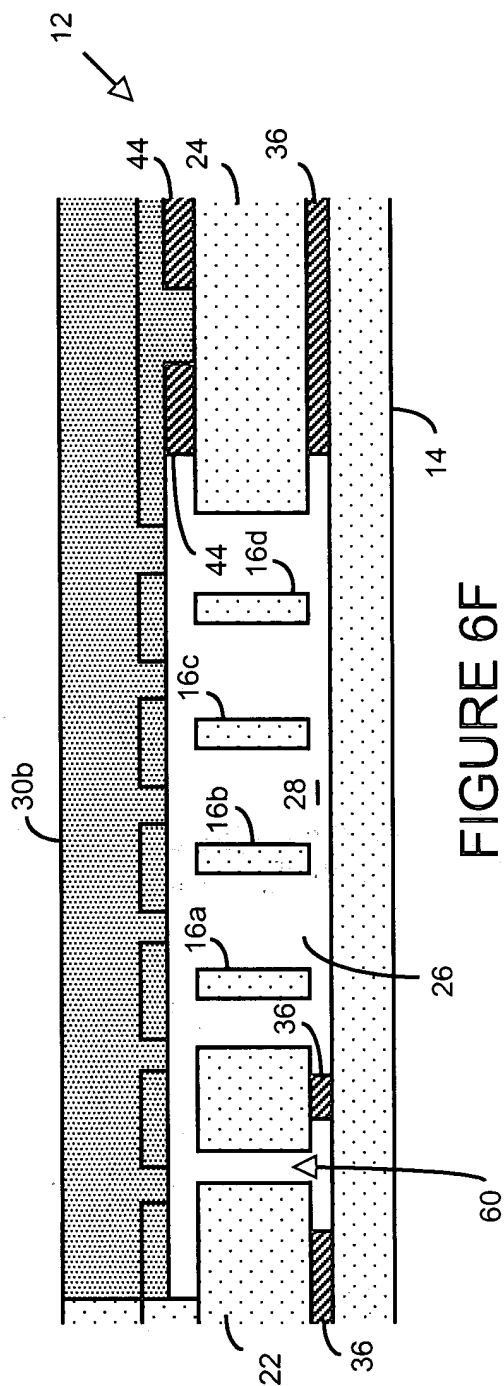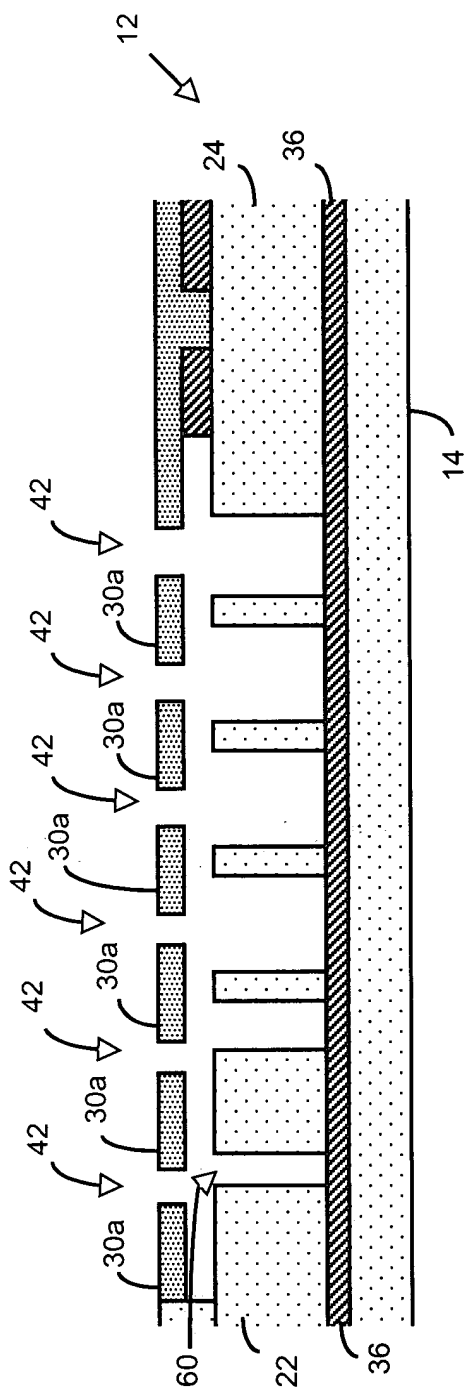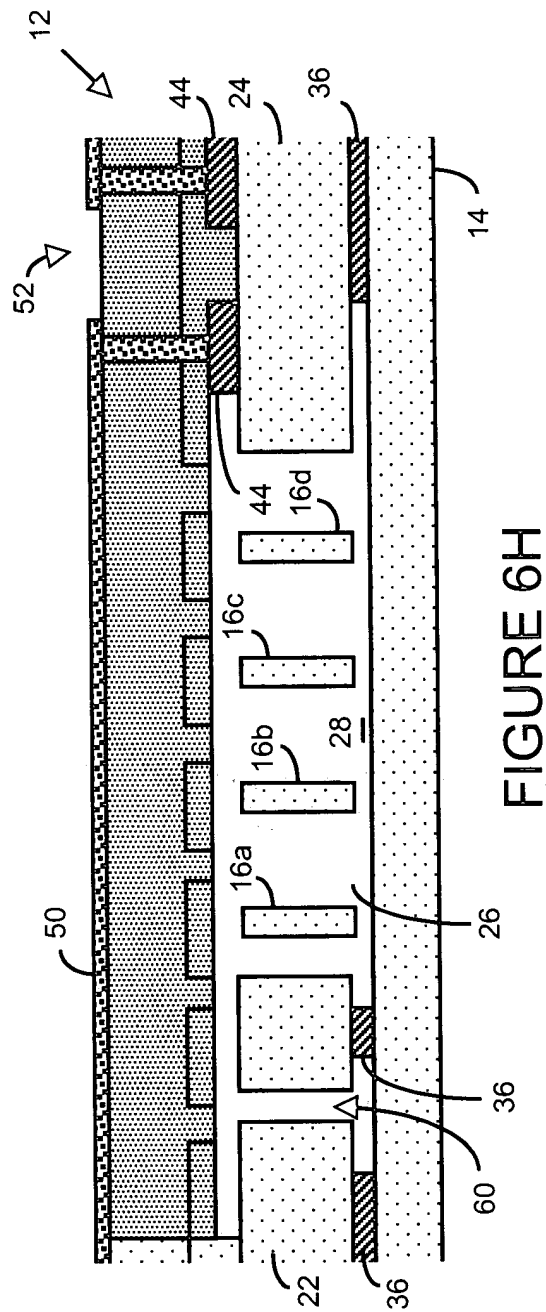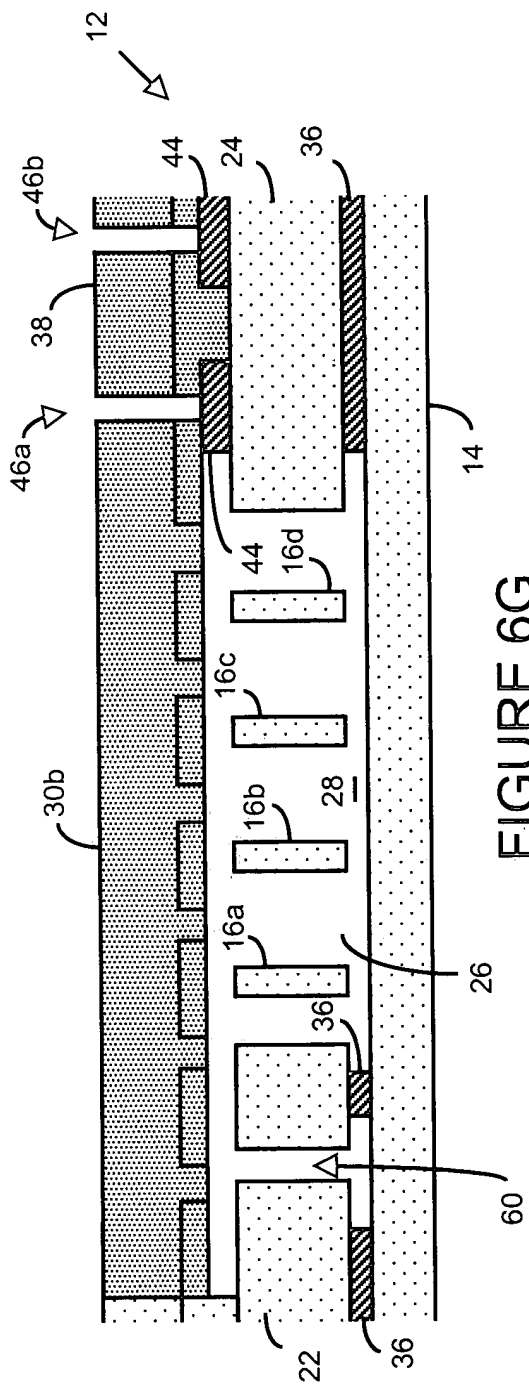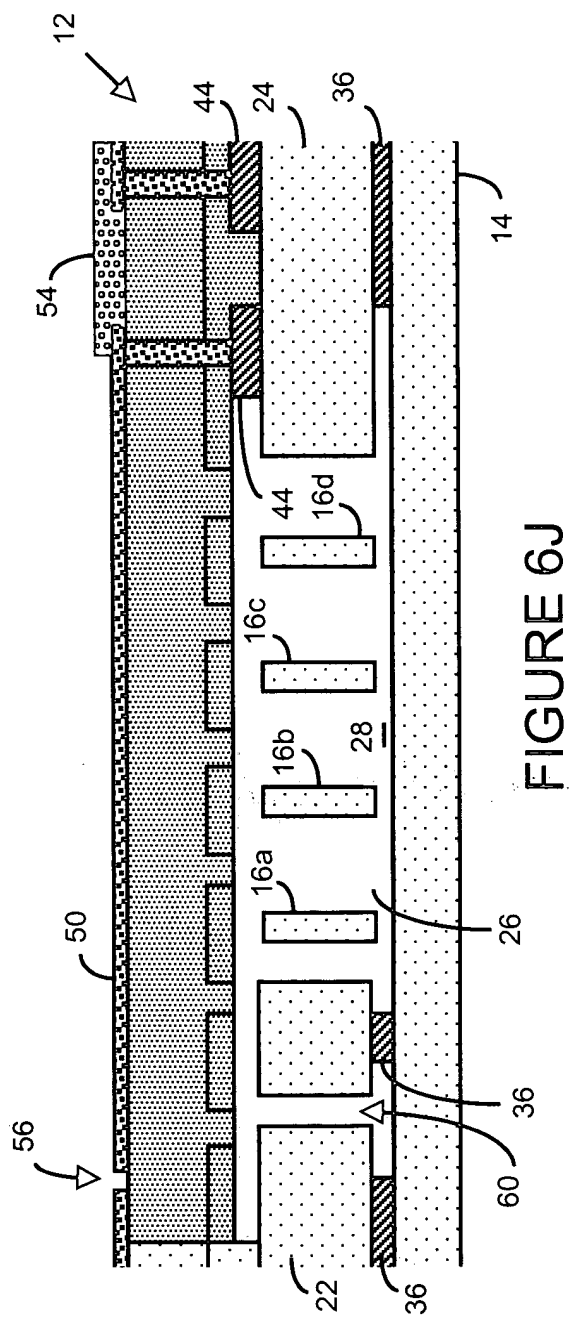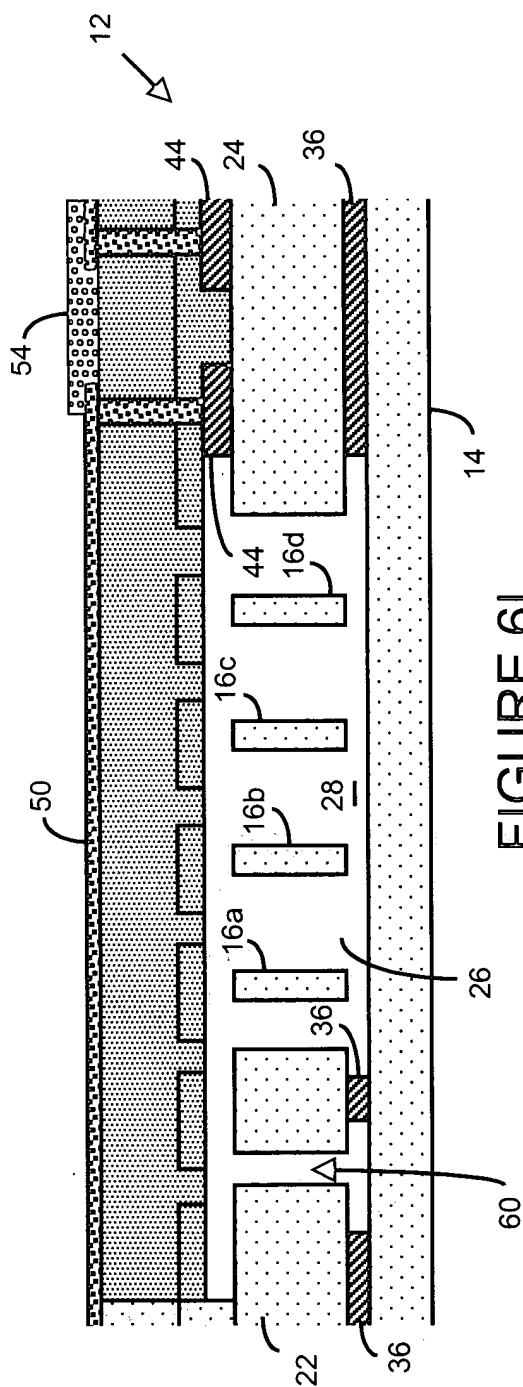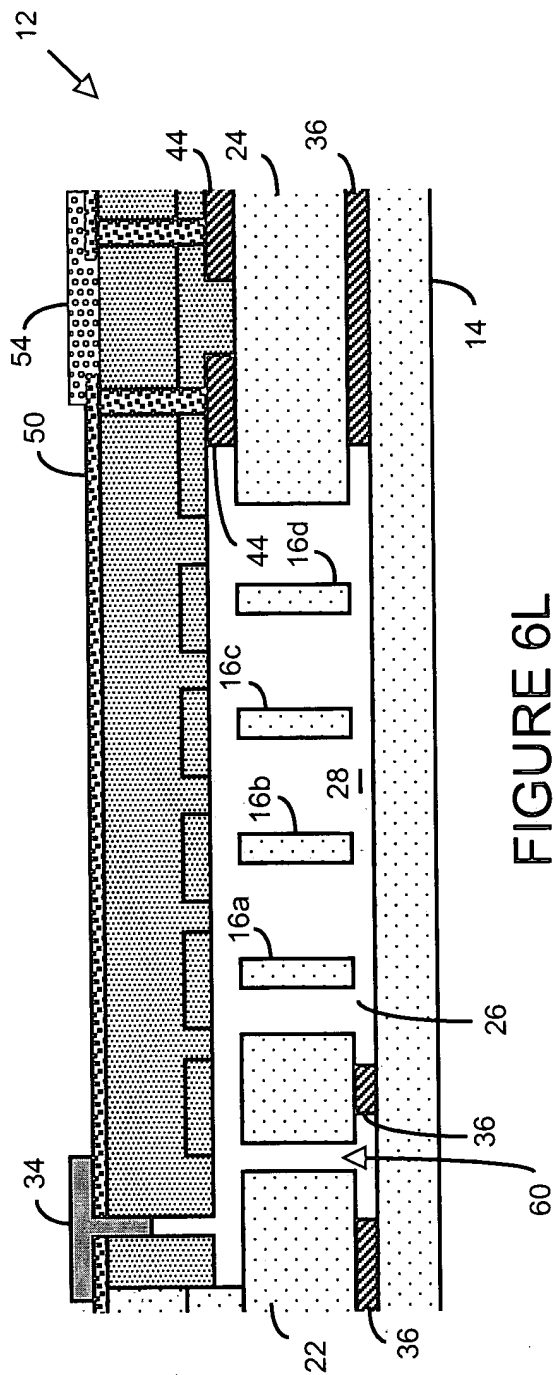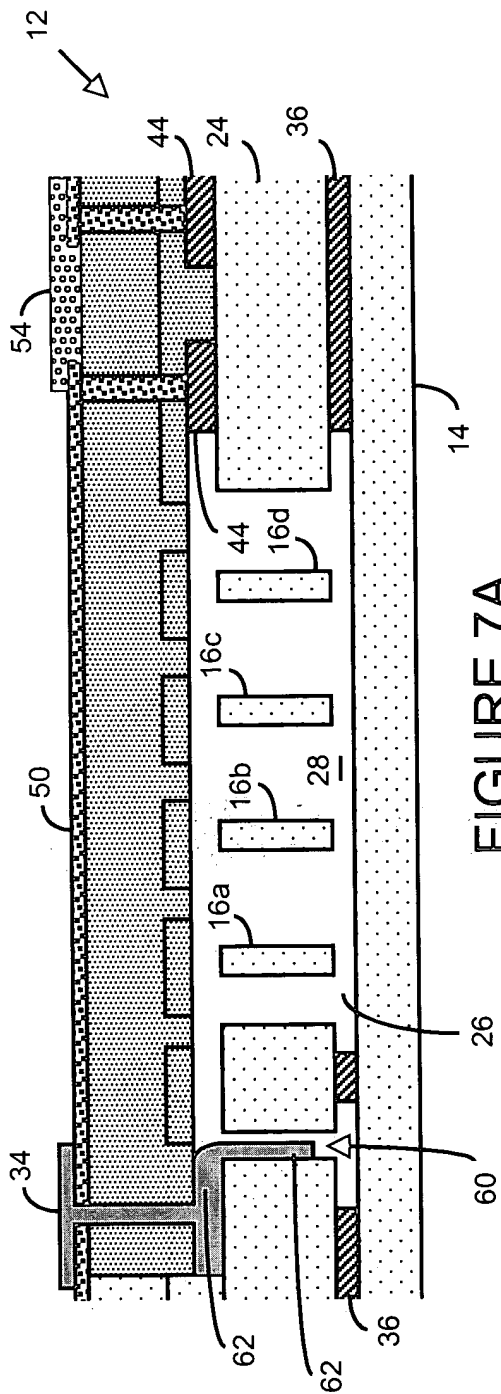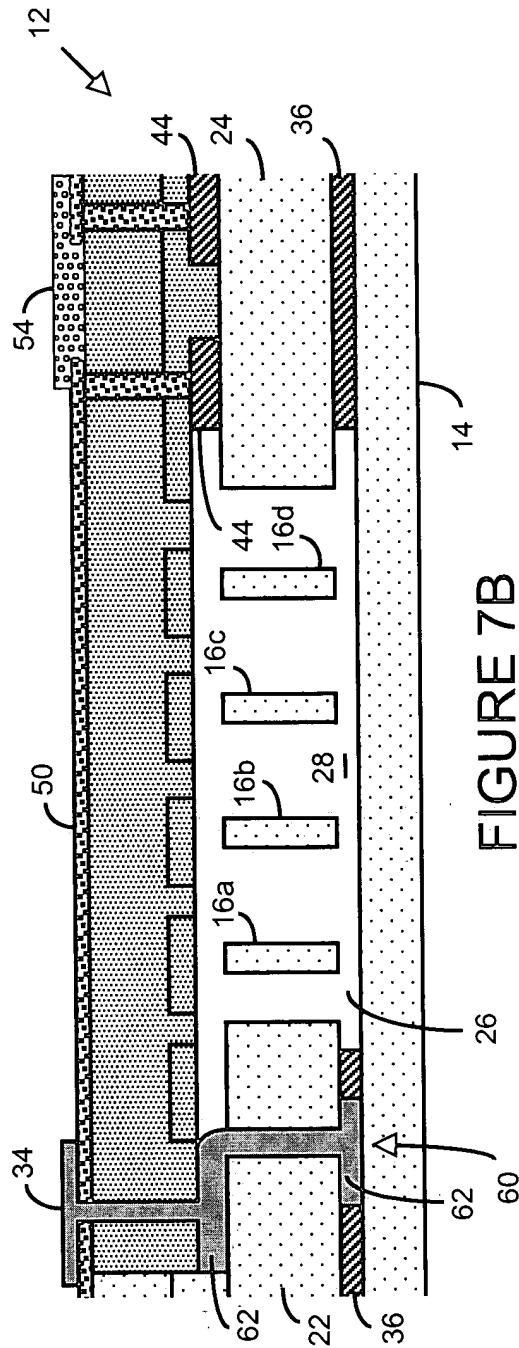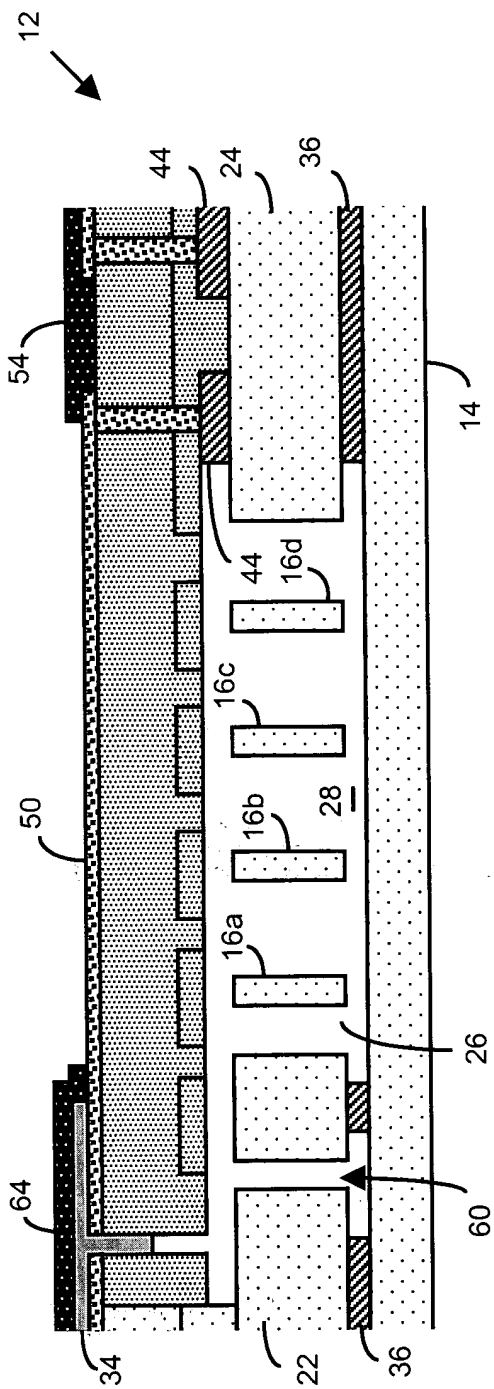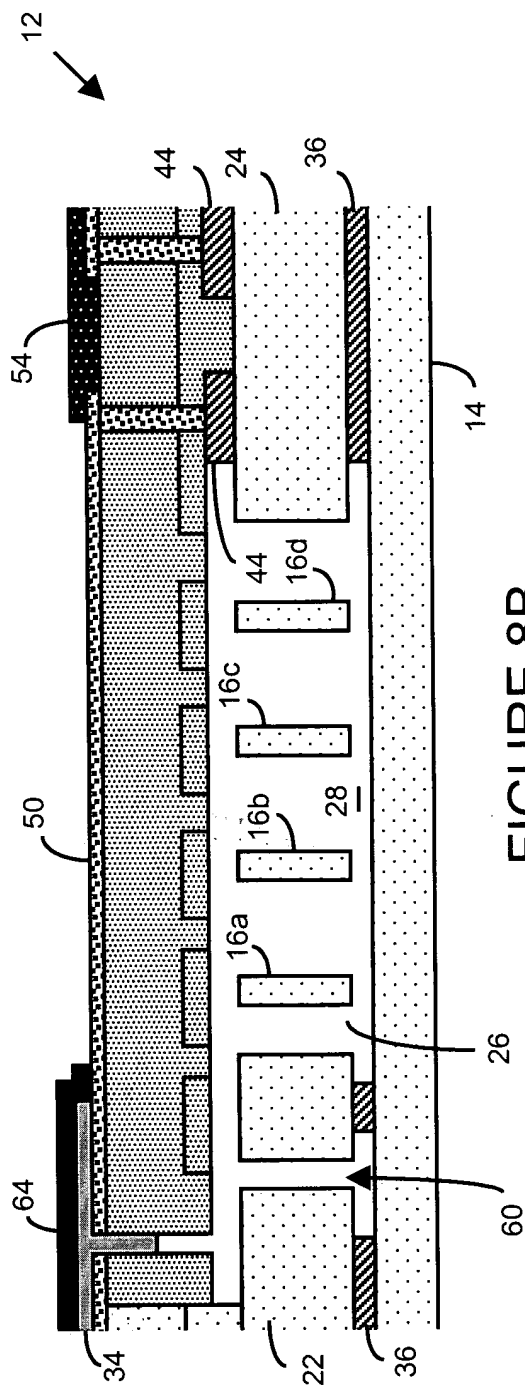
FIGURE 8A

FIGURE 8B

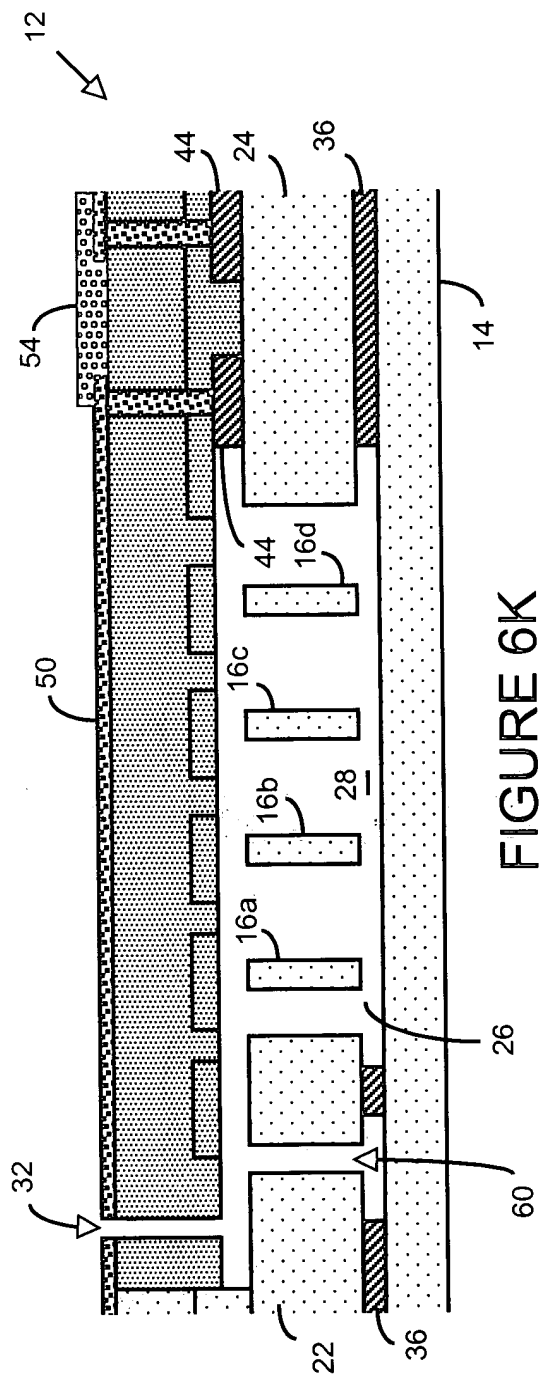FIGURE 9

FIGURE 10A

FIGURE 10B

FIGURE 10C

12

34
30a
50
54
16a
16b
16c
16d
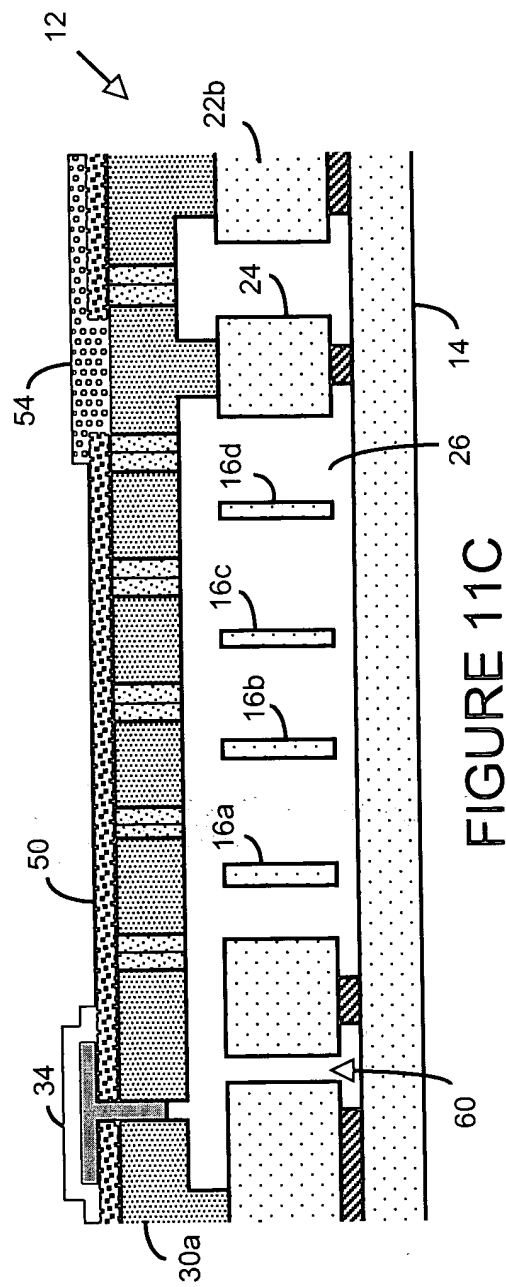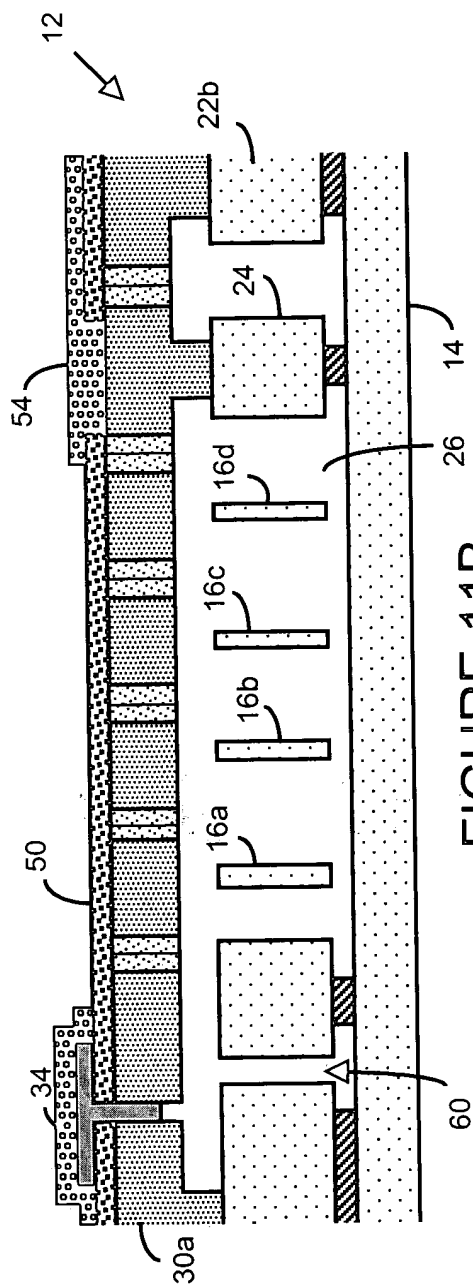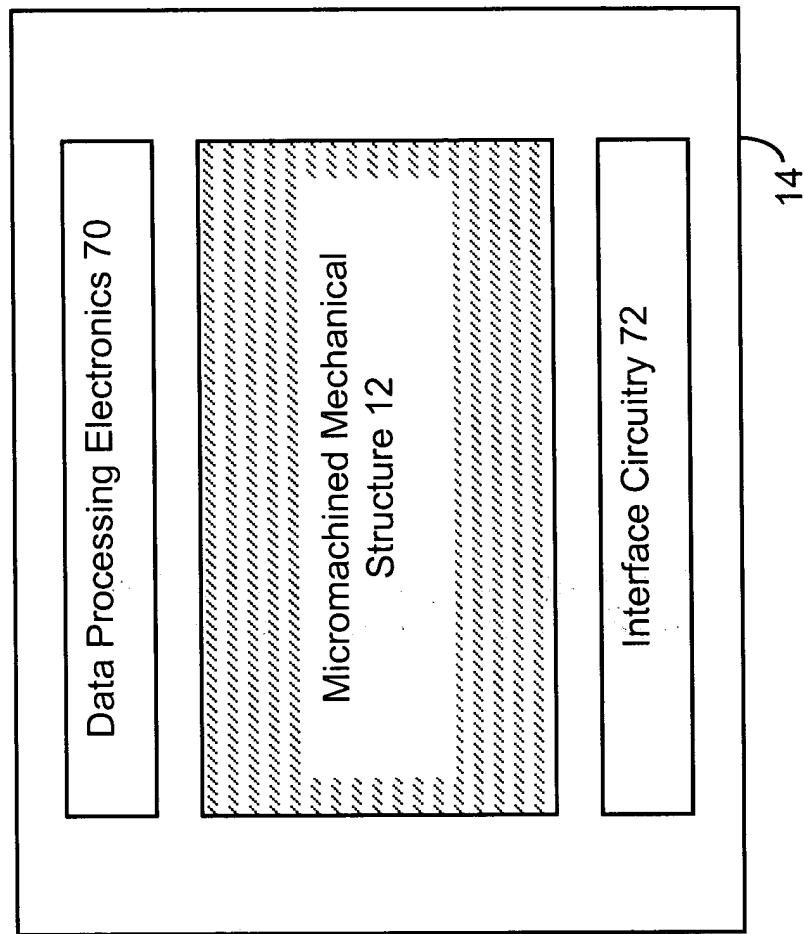22a
22b
24
26
14

FIGURE 11A

12

34
30a
50
54
16a
16b
16c
16d
22a
22b
24
26
14
60

12

22b

54

50

34

30a

16a 16b 16c 16d

24

26

14

60

FIGURE 11B

12

22b

54

50

34

30a

16a 16b 16c 16d

24

26

14

60

FIGURE 11C

10

Data Processing Electronics 70
Micromachined Mechanical Structure 12
Interface Circuitry 72

14

FIGURE 12

10

72

74

54

50

22

14

12

34

50

54

16a

16b
16c

16d

24

44

28

26

14

FIGURE 13A

10

72

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74

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22

14
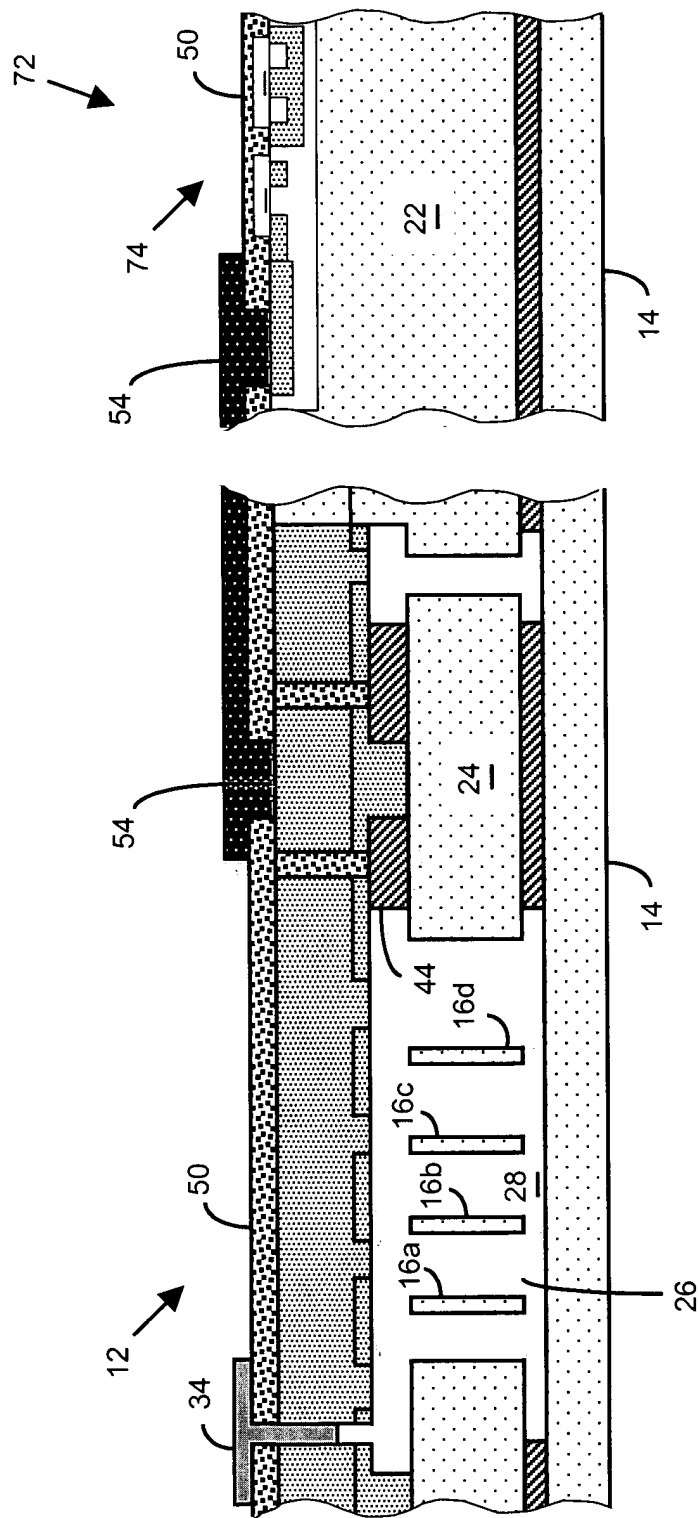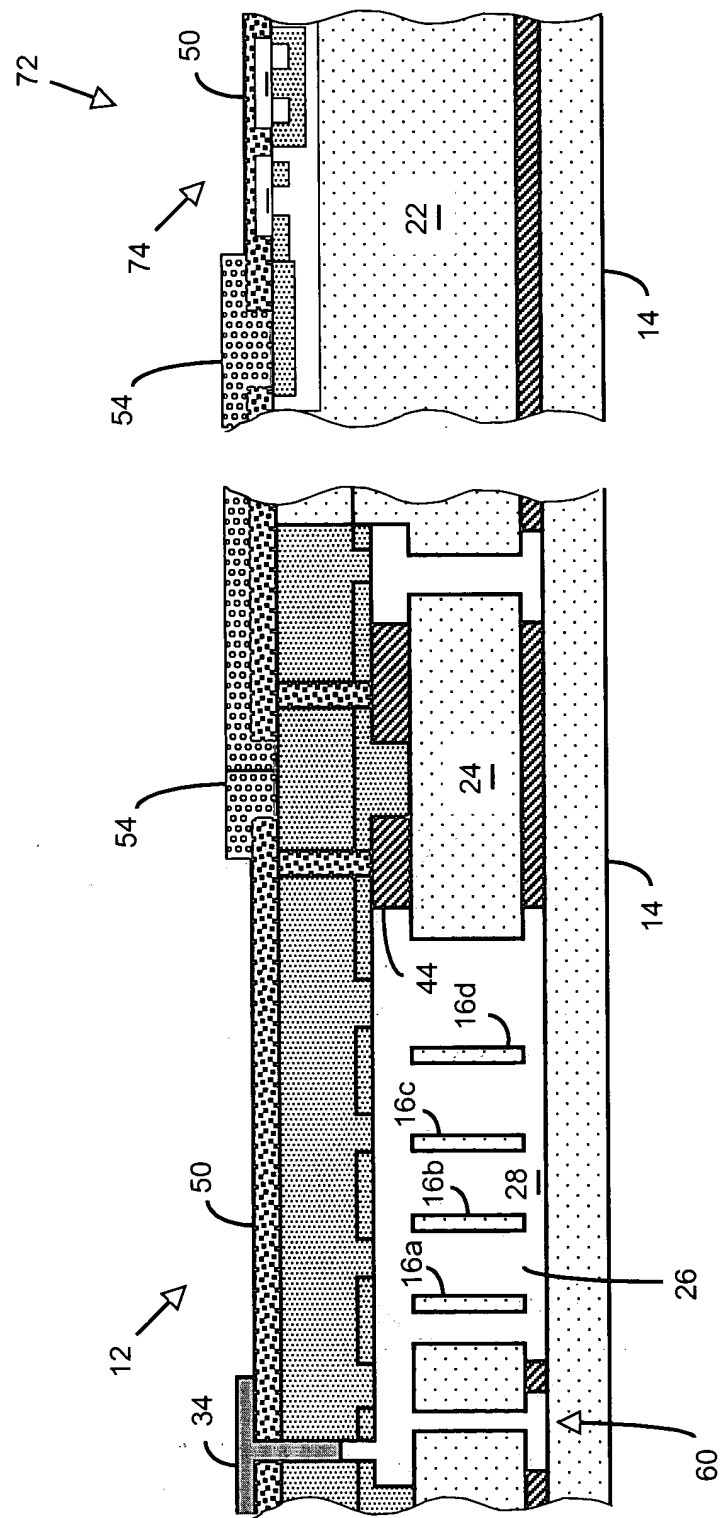
54

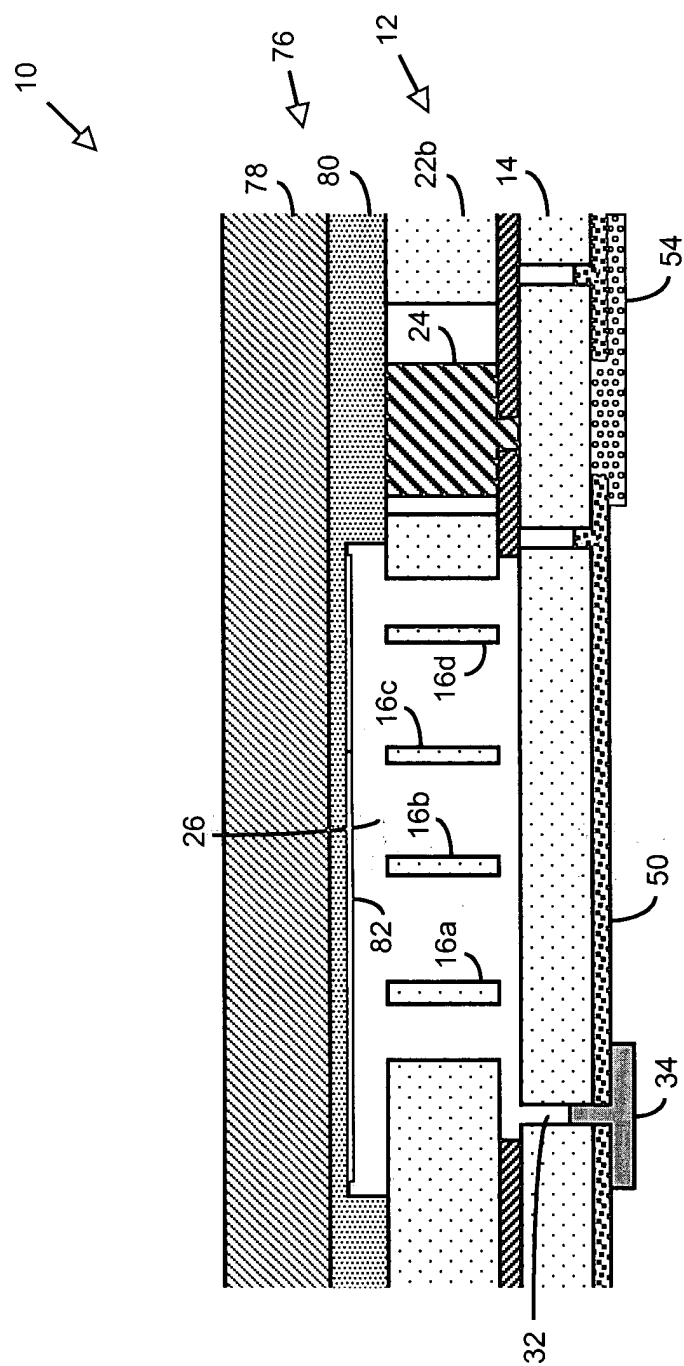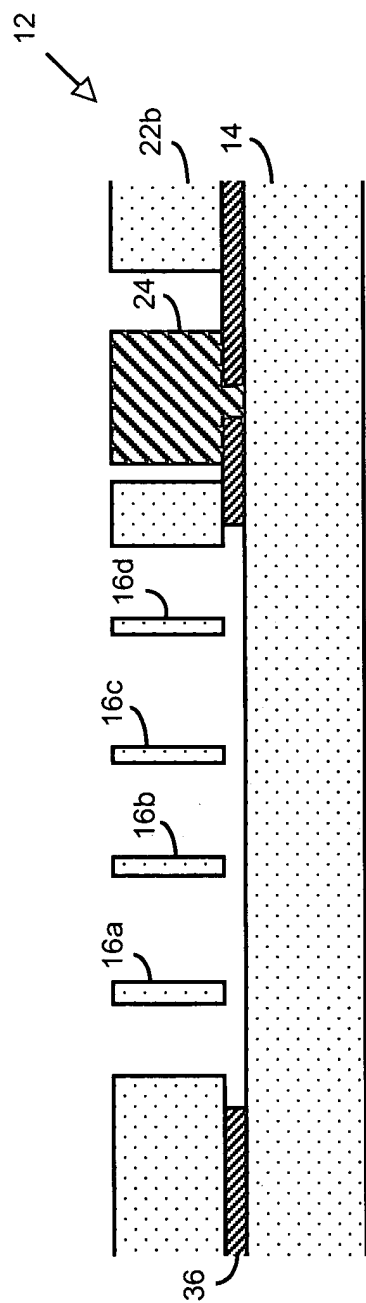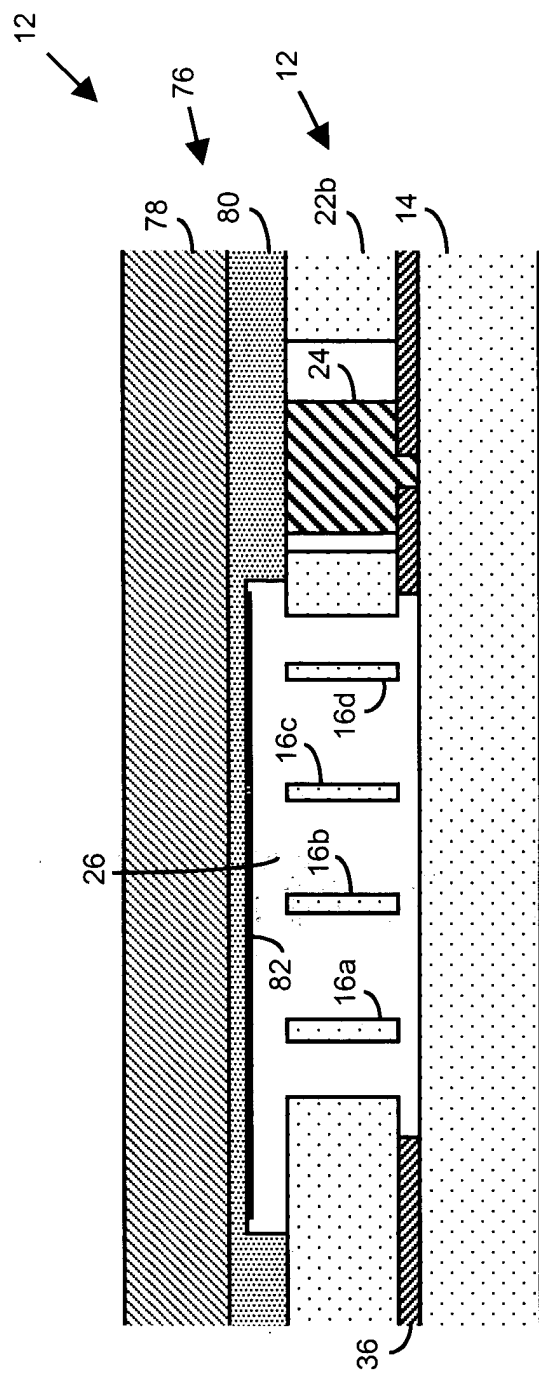50

12

34

44

16d

16c

16b
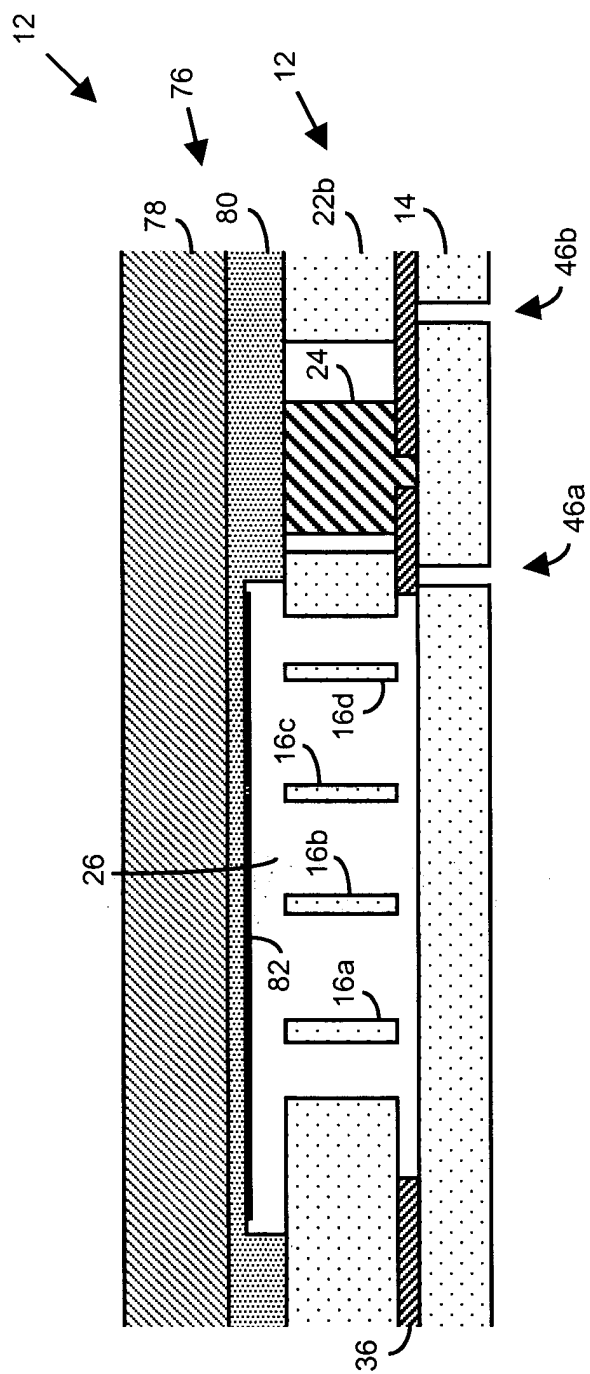
16a

28

24

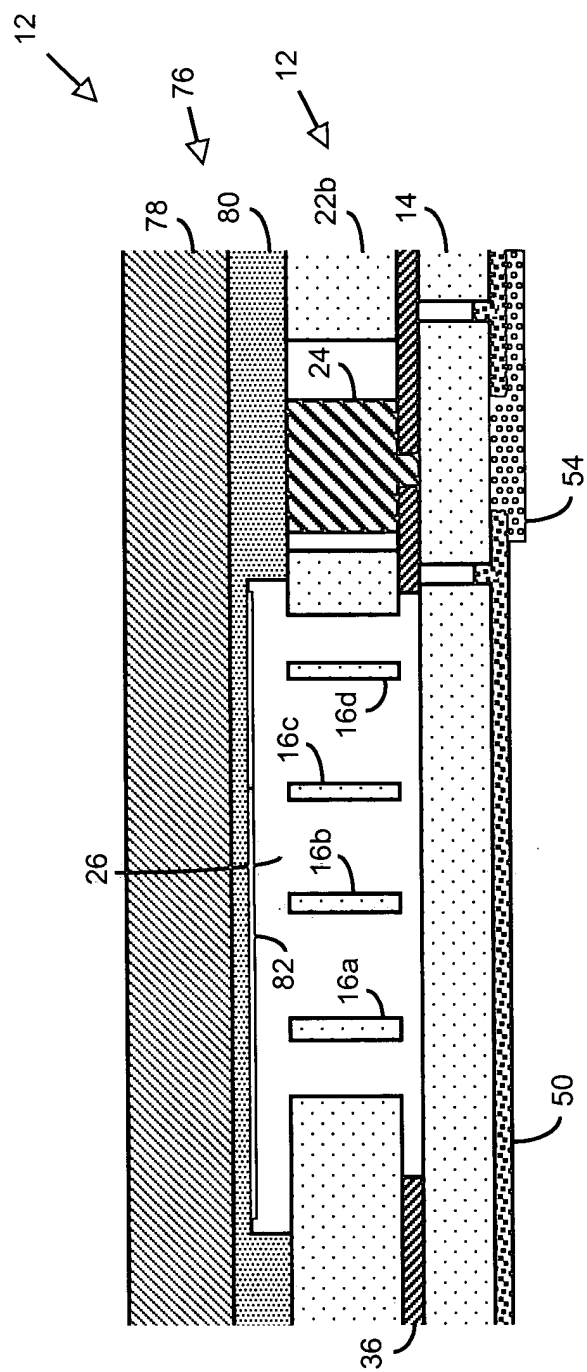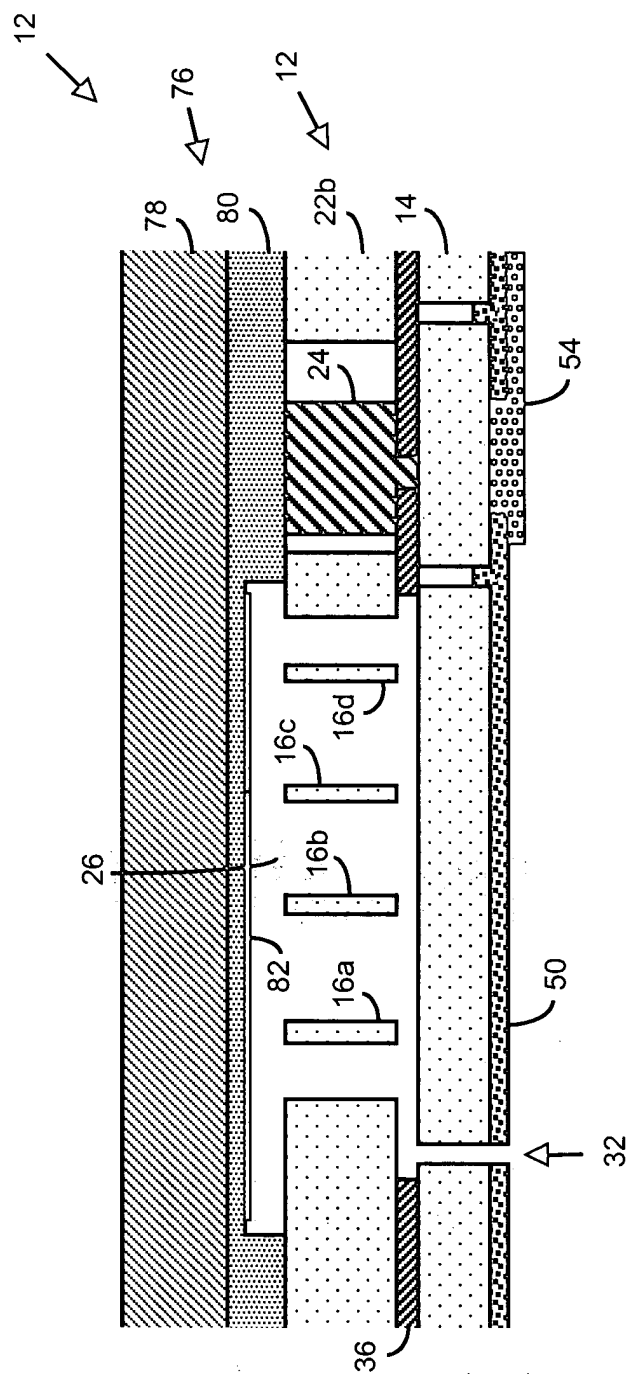26

60

14

FIGURE 13B

FIGURE 14

FIGURE 15A

FIGURE 15B

FIGURE 15C

FIGURE 15D

FIGURE 15E
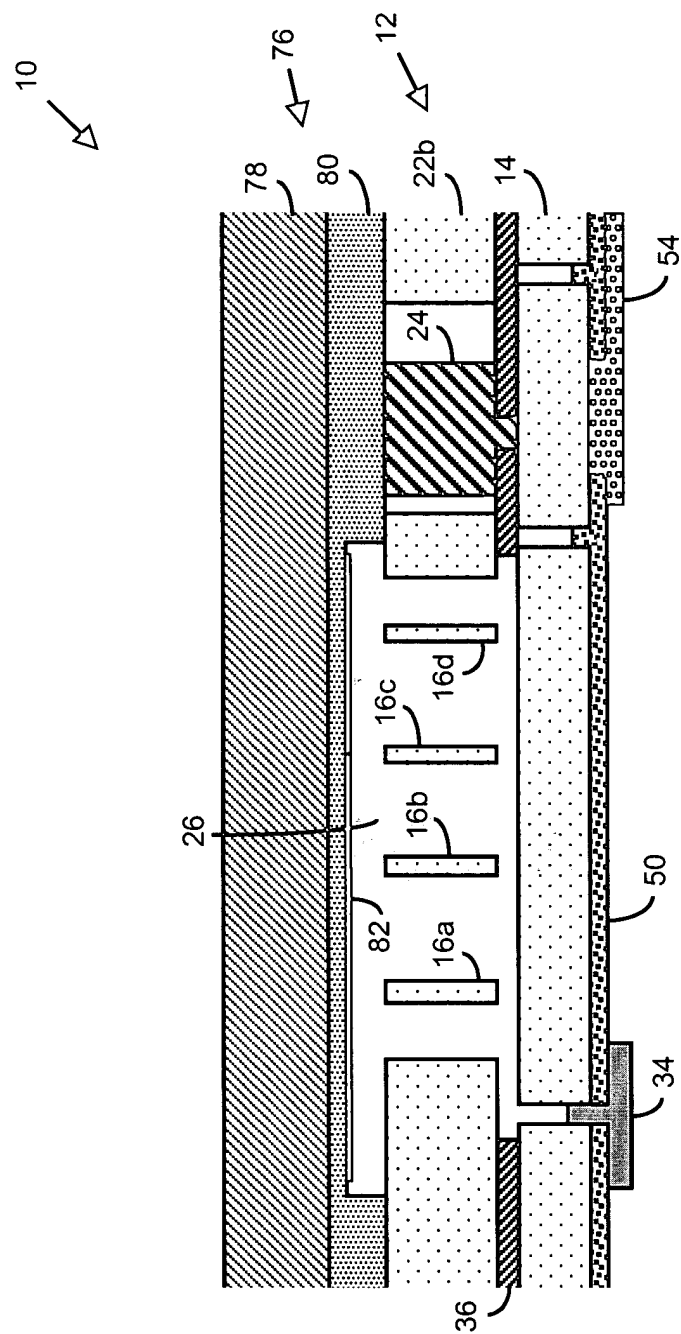
FIGURE 15F

FIGURE 16A

FIGURE 16B

12

50

32

22

36

16a

16b
16c
16c
28
44
16d

44

24

36

26

14

FIGURE 16C

34

50

22

36

16a

16b
16c
28
44
16d

44

24

36

26

14

FIGURE 16D

FIGURE 16E

FIGURE 16F

FIGURE 17A

12
44
24
36
54
16a
16b
16c
16d
28
44
26
22
36
14

FIGURE 17B

12
44
24
36
40
54
16a
16b
16c
16d
28
44
26
56
22
36
14

FIGURE 17C

12

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16a 16b 16c
16d

44
24

36

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22

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36

44

14
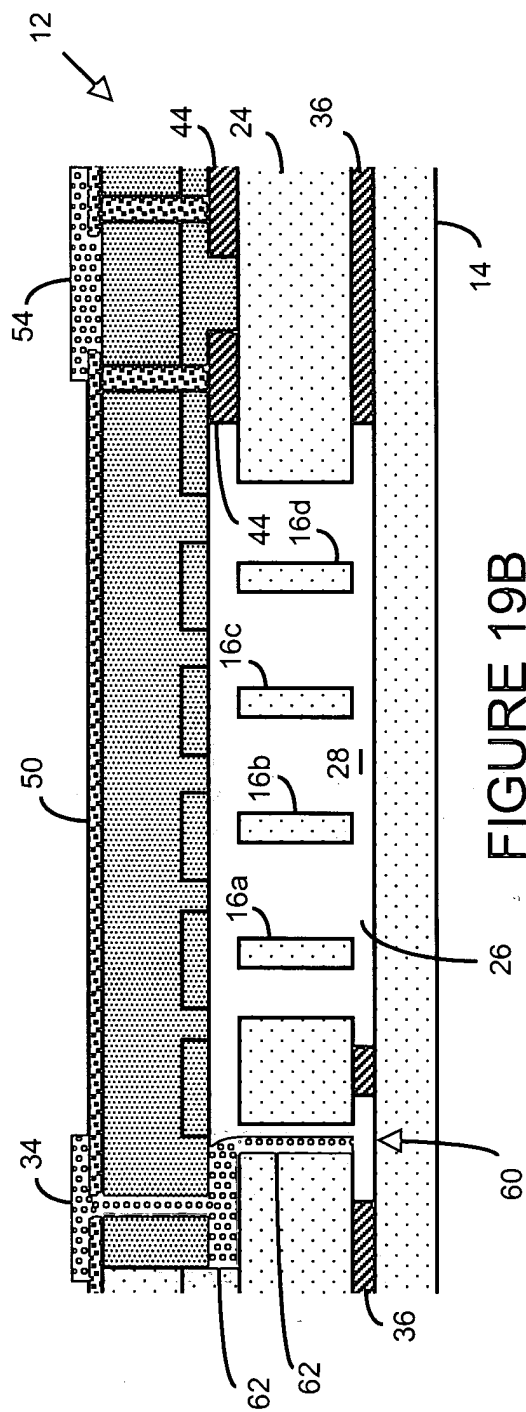
FIGURE 17D

12

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34

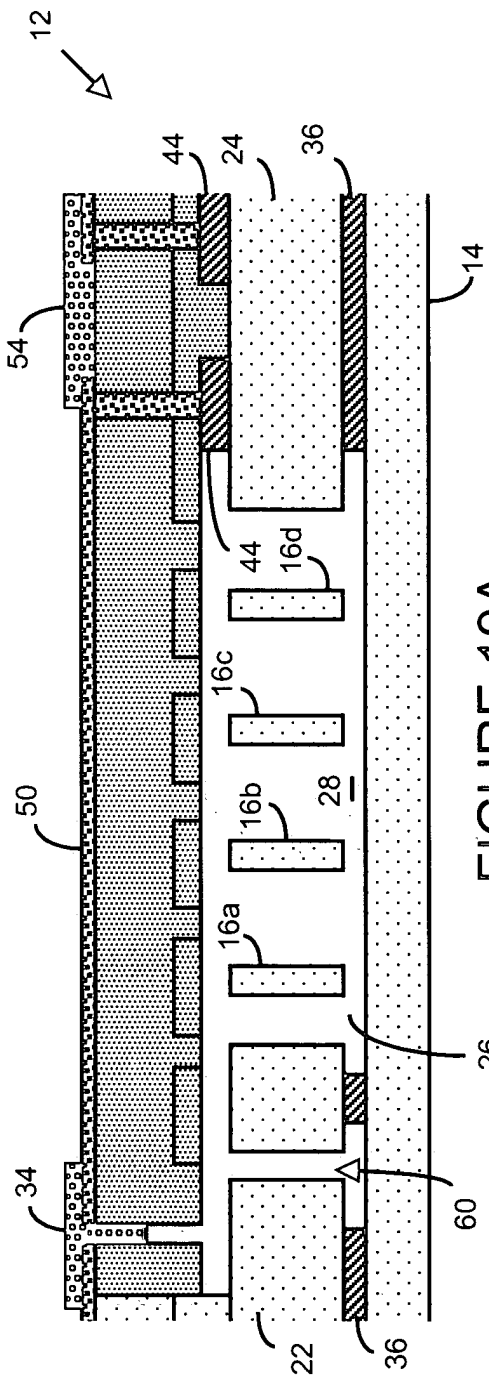16a 16b 16c
16d

44
24

36

28

22

26

36

44

14
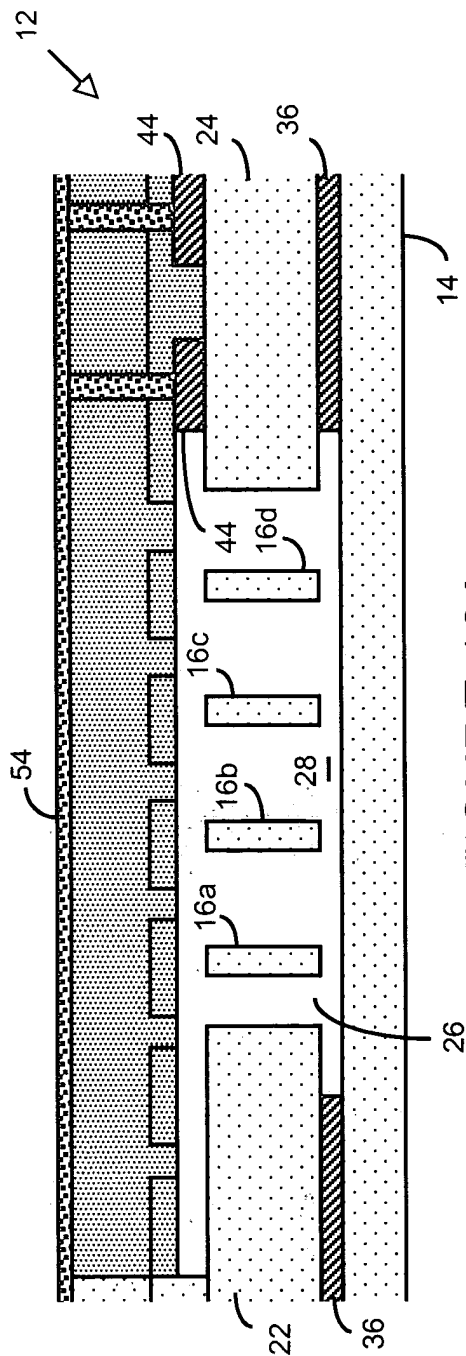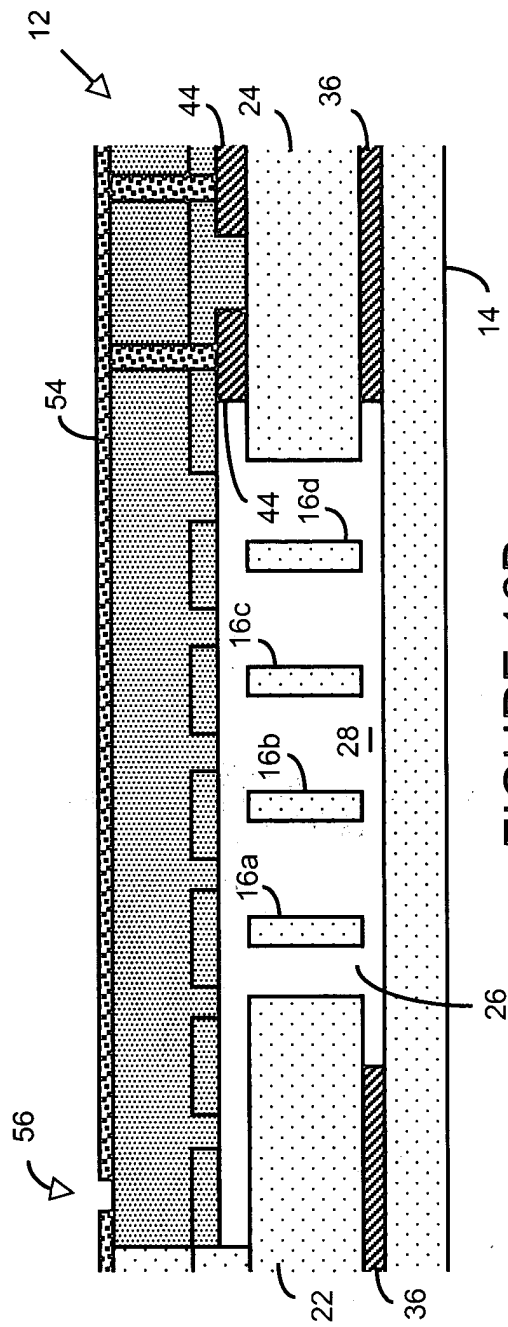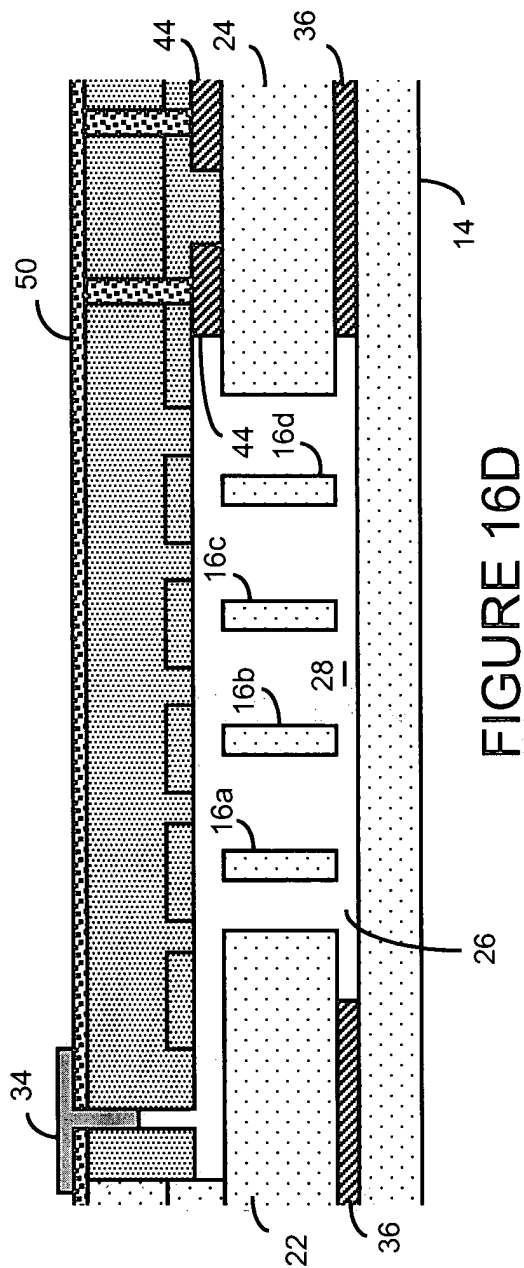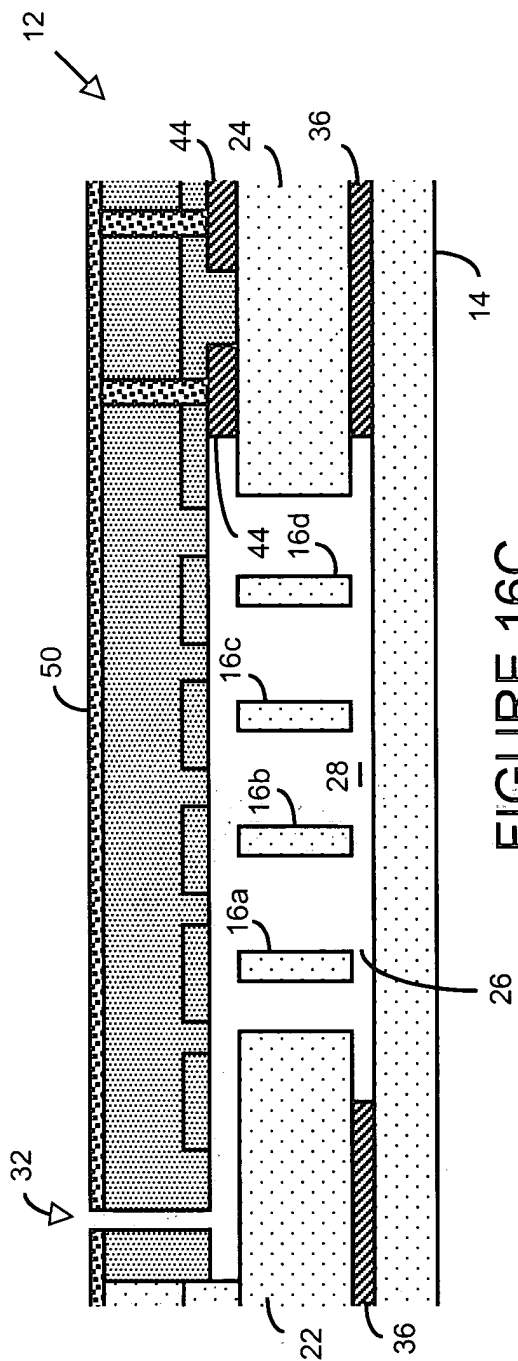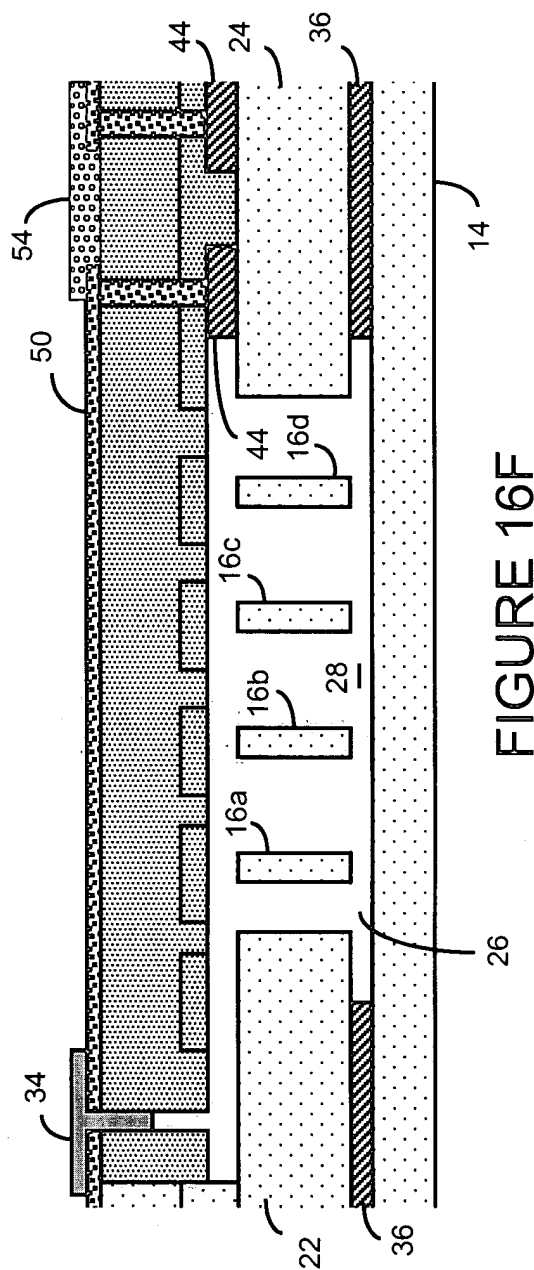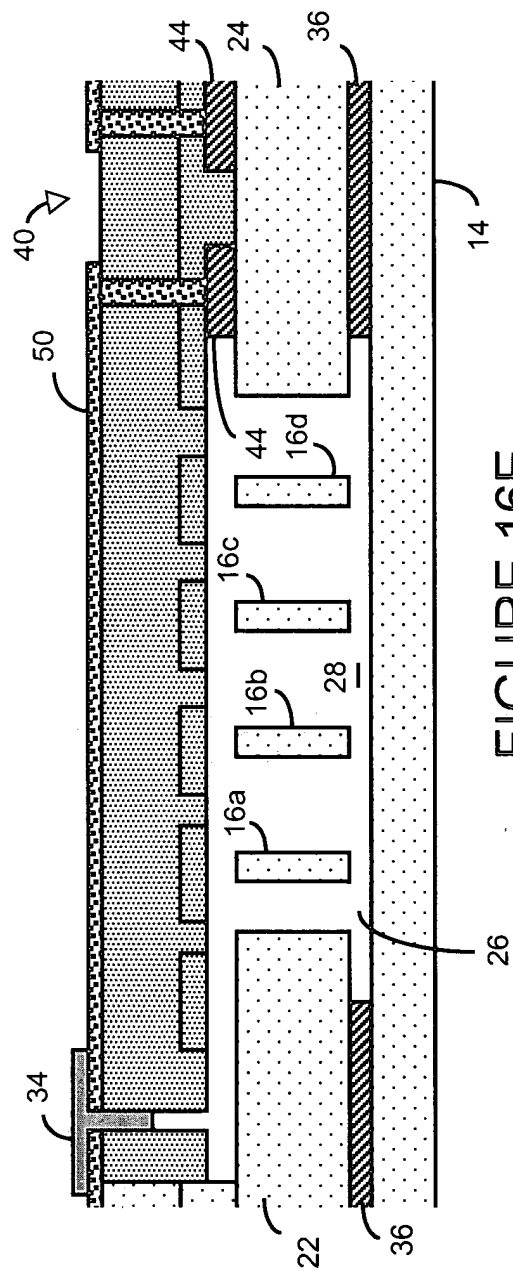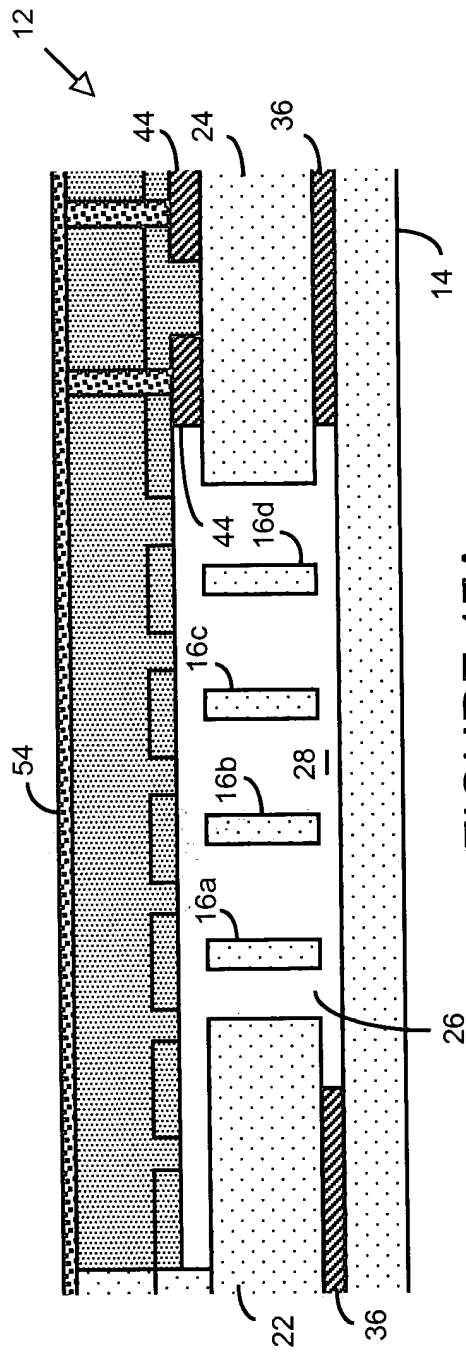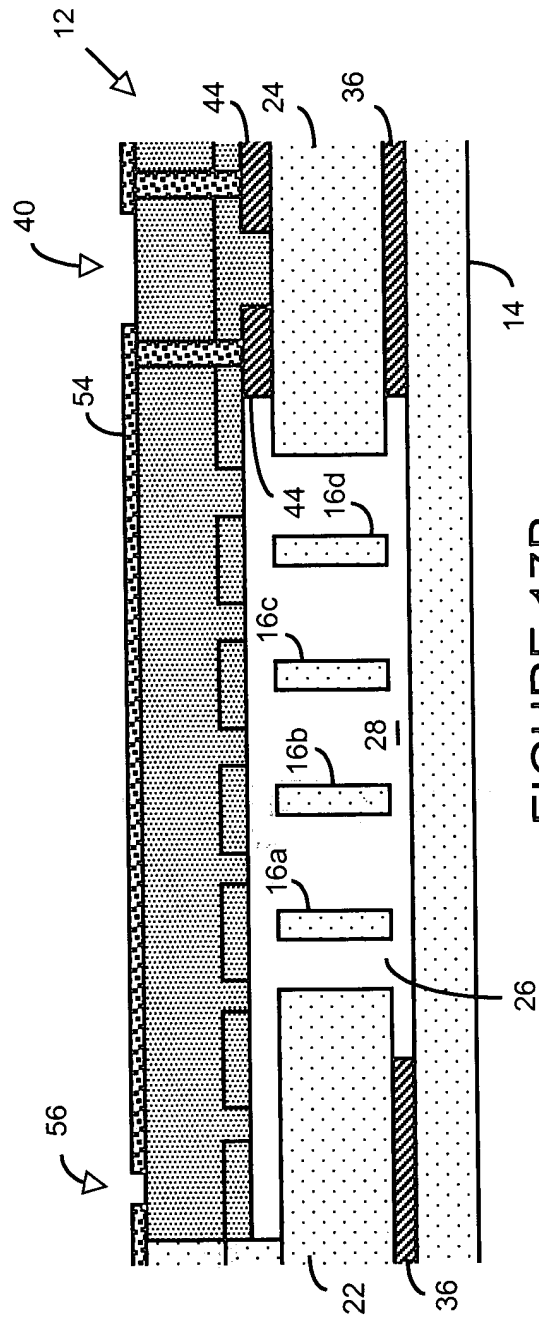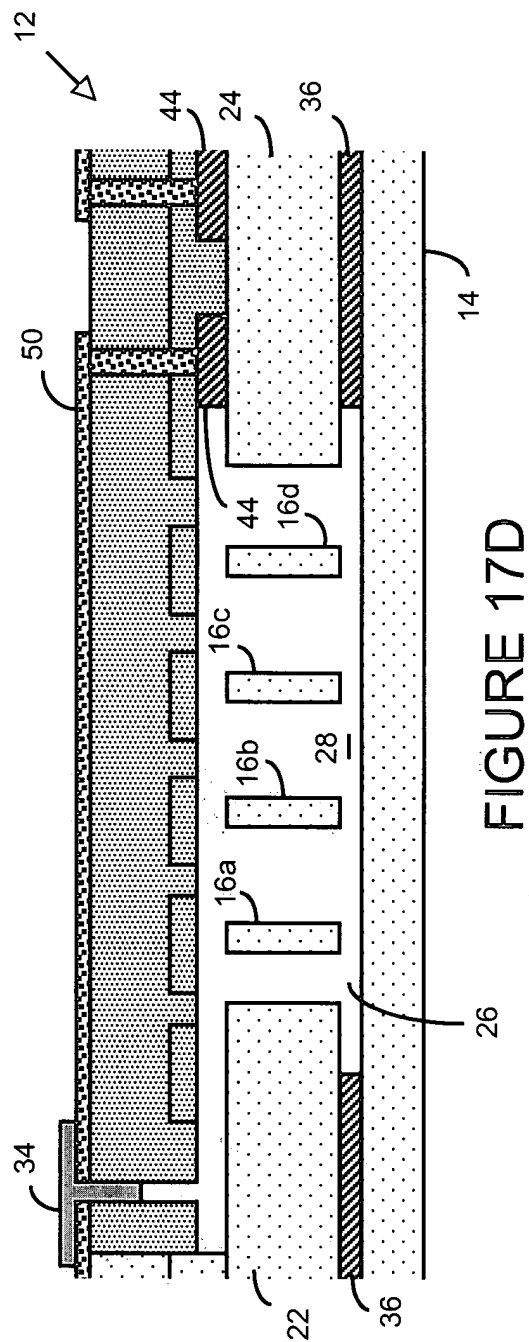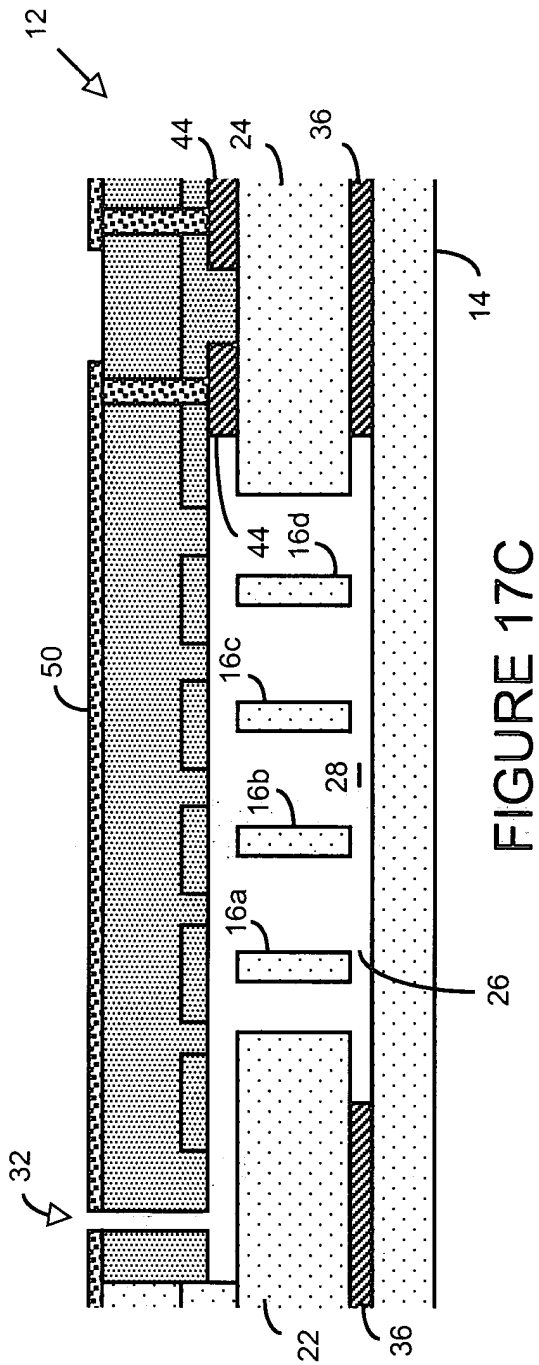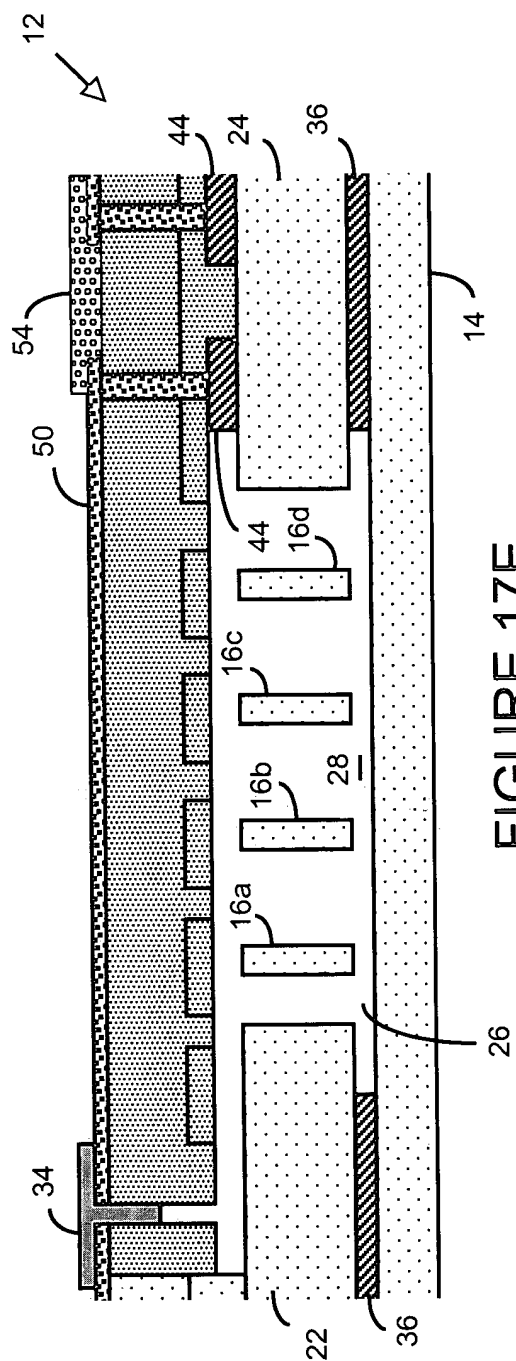
FIGURE 17E
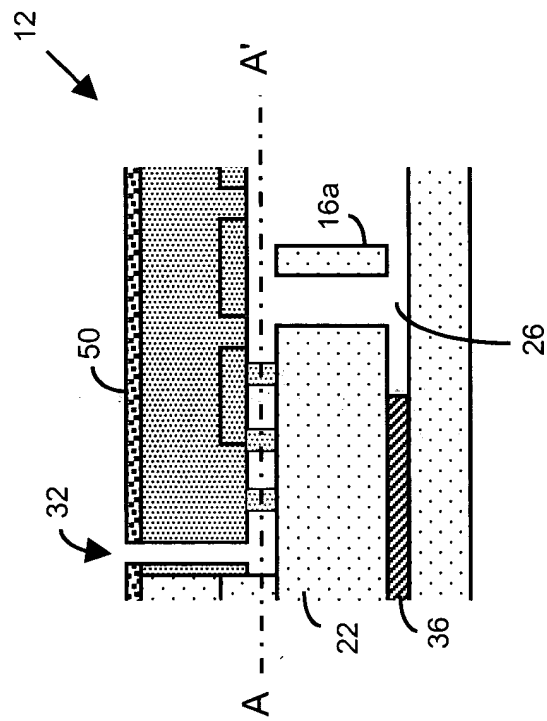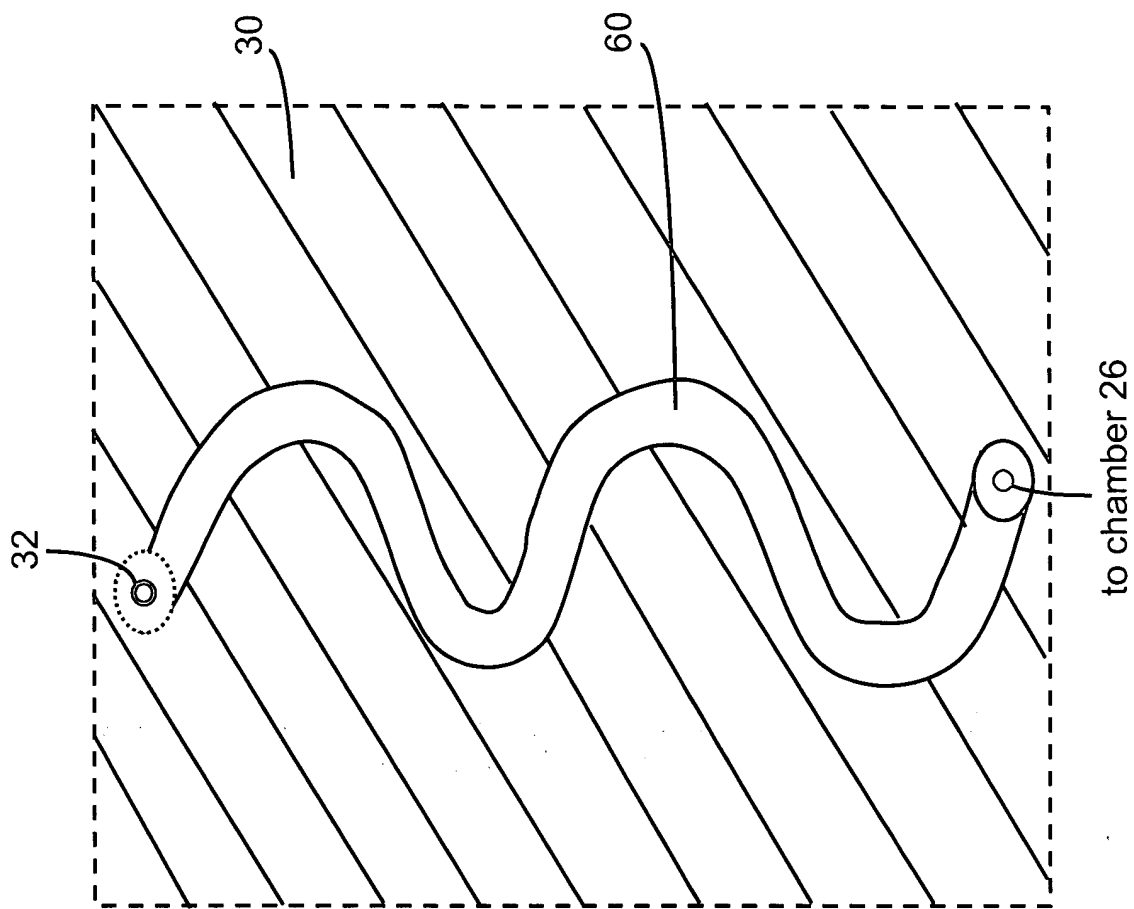
FIGURE 18

FIGURE 19A

FIGURE 19B

FIGURE 20A

30

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32

to chamber 26
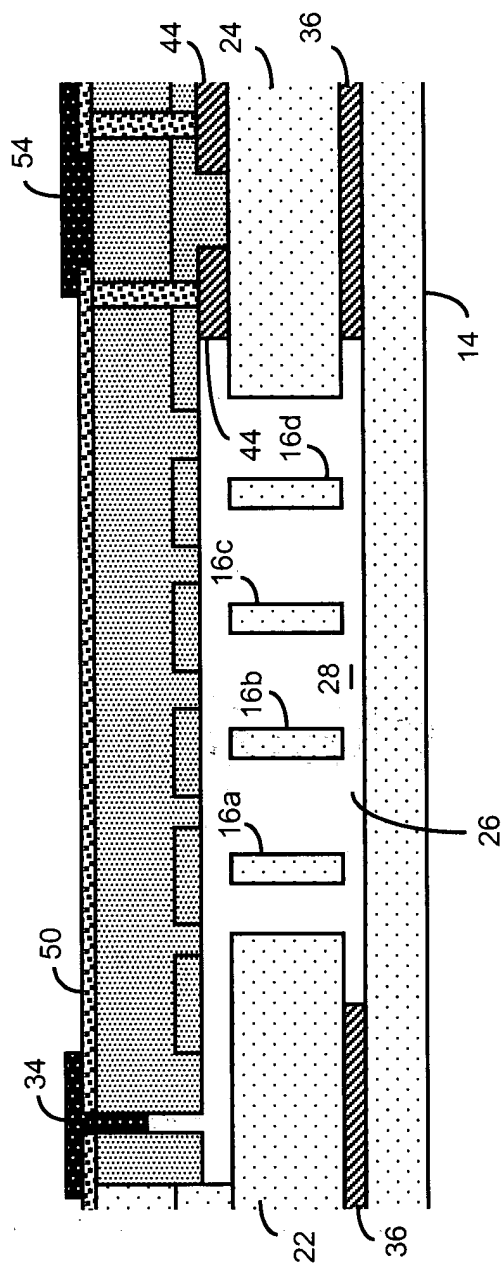
FIGURE 20B

FIGURE 21A

FIGURE 21B